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THE SACRED THEORY OF THE EARTH:

Containing an Account of the
Original of the Earth,
And of all the
GENERAL CHANGES which it
hath already undergone, or is to undergo,
till the CONSUMMATION of all Things.

IN TWO VOLUMES.

THE TWO FIRST BOOKS
Concerning the DELUGE,
AND
Concerning PARADISE.

THE TWO LAST BOOKS
Concerning the BURNING *of the* WORLD,
AND
Concerning the NEW HEAVENS *and* NEW EARTH.

With a REVIEW of the THEORY, and of
its Proofs; eſpecially in reference to Scripture.

The FOURTH EDITION.

In which is added,
The AUTHOR'*s Defence of the* WORK, *from*
the Exceptions of Mr. Warren.
AND
An ODE to the Author by Mr. *Addiſon.*

LONDON: Printed for JOHN HOOKE, at the *Flower-de-*
luce againſt St. *Dunſtan*'s-*Church* in *Fleet-ſtreet*. MDCCXIX.

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Ad Inſigniſſimum Virum

D. THO. BURNETTUM,

Sacræ Theoriæ Telluris Autorem.

NON uſitatum carminis alitem,
BURNETTE, poſcis, non humiles modos:
Vulgare plectrum, languidæque
Reſpuis officium camœnæ.
Tu mixta rerum ſemina conſcius,
Molémque cernis diſſociabilem,
Terrámque concretam, & latentem
Oceanum gremio capaci:
Dum veritatem quærere pertinax
Ignota pandis, ſollicitus parùm
Utcunque ſtet commune vulgi
Arbitrium & popularis error.
Auditur ingens continuò fragor,
Illapſa tellus lubrica deſerit
Fundamina, & compage fractâ
Suppoſitas gravis urget undas.

Impulſus erumpit medius liquor,
Terras aquarum effuſa licentia
Claudit viciſſim; has inter orbis
Reliquiæ fluitant prioris.
Nunc & recluſo carcere lucidam
Balæna ſpectat ſolis imaginem,
Stelláſque miratur natantes,
Et tremulæ ſimulacra lunæ.
Quæ pompa vocum non imitabilis!
Qualis caleſcit ſpiritus ingenî!
Ut tollis undas! ut frementem
Diluvii reprimis tumultum!
Quis tam valenti pectore ferreus
Ut non tremiſcens & timido pede
Incedat, orbis dum doloſi
Detegis inſtabiles ruinas?
Quin hæc cadentûm fragmina montium
Natura vultum ſumere ſimplicem
Coget refingens, in priorem
Mox iterum reditura formam.
Nimbis rubentem ſulphureis Jovem
Cernas; ut udis ſævit atrox Hyems
Incendiis, commune mundo
Et populis meditata Buſtum!
Nudus liquentes plorat Athos nives,
Et mox liqueſcens ipſe adamantinum
Fundit cacumen, dum per imas
Saxa fluunt reſoluta valles.

Jamque alta cœli mœnia corruunt,
Et veſtra tandem pagina (proh nefas!)
BURNETTE, veſtra augebit ignes,
Heu ſocio peritura mundo.
Mox æqua tellus, mox ſubitus viror
Ubique rident: En teretem Globum!
En læta vernantis Favonî
Flamina, perpetuóſque flores!
O pectus ingens! O animum gravem,
Mundi capacem! ſi bonus auguror,
Te, noſtra quo tellus ſuperbit,
Accipiet renovata civem.

Jo. Addiſon, è Coll. Magd. Oxon. *1699.*

AN
ODE
To the Learned
Dr. *Thomas Burnet*,
AUTHOR of *The Sacred Theory of the* EARTH.

I.

NO common Height the Muſe muſt
 ſoar,
 That wou'd thy Fame in Numbers try;
Nor dare in humble Verſe adore,
 But riſe with Thee above the Sky:
 You ask a bold and lofty ſtrain,
 And what we meanly ſing, diſdain.

II.

You Nature's early Birth explore;
 Her diſunited Frame diſcloſe,
From what mix'd Cauſe, and jarring Power,
 The Infant Earth to Being roſe:
 How, in her circling Boſom ſleep
 Th' impriſoned Seas, and bounded Deep.

III.

Reſolv'd great hidden Truths to trace,
 Each learned Fable you deſpiſe;
And, pleas'd, enjoy the fam'd Diſgrace,
 To think, and reaſon, *ſingly wiſe:*
 Each Tale reject by Time allow'd,
 And nobly leave the erring Crowd.

IV.

Hark! from her weak Foundations tore,
 The burſting Earth aſunder flies,
And, prop'd by yielding Seas no more,
 The dreadful Crack alarms the Skies:
 Whoſe Arches rent, their Weight forego,
 And plunge in opening Gulphs below.

V.

Now ruſhing from their watry Bed,
 The *driving* Waves diſdain a Shore;
And with reſiſtleſs Force o'erſpread
 That Orb, which check'd their Rage before;
 While ſcatter'd o're the foamy Tide,
 All Nature's floating Ruins ride.

VI.

New Heavens diſclos'd, the Silver Train
The SUN beneath their Waves admire;
And gliding thro' the enlight'ned Main,
Gaze at each Star's diminiſh'd Fire.
Well pleas'd, the MOON's bright Orb ſurvey,
Trembling along their Azure Play.

VII.

How ſtrong each Line, each Thought how great,
With what an Energy you riſe!
How ſhines each Fancy? with what Heat
Does every glowing Page ſurprize?
While ſpouting Oceans upward flow,
Or ſink again to Caves below.

VIII.

As Nature's Doom you thus impart,
The moving Scene we ſcarce endure;
But, ſhrinking, ask our anxious Heart,
If on our Earth we tread ſecure?
Whoſe Fate, unmov'd, as you perſue,
We ſtart and *tremble* but to view.

IX.

Yet theſe Remains we now behold,
Which Tow'ring once in Hills aroſe;
Shall from a new and fairer Mould
A new and fairer Earth compoſe:
Which to her Fate ſhall Owe her Bloom,
And riſe more lovely from her Tomb.

X.

Yet ſee *This* beauteous Fabrick end,
This Second Pride of Fate expire;
While guſhing from the Clouds deſcend
The Burning Storm, the Liquid Fire;
Where Worlds and Men conſuming lie,
And in One bright Confuſion Die.

XI.

Their naked Tops the Hills admire,
No longer white with fleecy Dew;
And as they moan the ſpreading Fire,
Add to the Flames diſſolving too:
While Rocks from melting Mountains flow,
And roll in Streams thro' Vales below.

XII.

And now the Kindling Orbs on high
All Nature's mournful End proclaim;
When thy great WORK, (Alas!) muſt die,
And feed the rich victorious Flame:
Give Vigour to the waſting Fire,
And with the World TOO SOON expire.

XIII.

Once more her Bloom the Earth renews,
Smooth'd into Green, eternal Vales;
Her Glebe ſtill moiſt with fragrant Dews,
Her Air *ſtill* rich with balmy Gales:
No Change her Flowry Seaſons breed,
But Springs retire, and Springs ſucceed.

XIV.

Oh ſay, *Thou* Great, *Thou* Sacred Name;
What Scenes Thy thoughtful Breaſt employ,
Capacious as that *mighty* Frame
You raiſe with Eaſe, with Eaſe deſtroy?
Each World ſhall boaſt thy Fame; and You,
Who charm'd the OLD, ſhould grace the NEW.

TO THE KING's MOST Excellent Majeſty.

SIR,

NEW-found Lands and Countries accrew to the Prince whoſe Subject makes the firſt Diſcovery; and having retriev'd a World that had been loſt for ſome thouſands of Years, out of the Memory of Man, and the Records of Time, I thought it my Duty to lay it at your Majeſty's Feet. 'Twill not enlarge your Dominions, 'tis paſt and gone ; nor dare I ſay it will enlarge your Thoughts ; but I hope it may gratify your Princely Curioſity to read the Deſcription of it, and ſee the Fate that attended it.

We have ſtill the broken Materials of that firſt World, and walk upon its Ruins ; while it ſtood, there was the Seat of *Paradiſe*, and the Scenes of the *Golden Age* ; when it fell, it made the Deluge ; and this unſhapen Earth we now inhabit, is the Form it was found in when the Waters had retir'd, and the dry Land appear'd. Theſe things, Sir, I propoſe and preſume to prove in the following Treatiſe, which I willingly ſubmit to your Majeſty's Judgment and Cenſure ; being very well ſatisfied, that if I had ſought a Patron in all the Liſt of Kings, your Contemporaries, or in the Roll of your Nobles of either Order, I could not have found a more competent Judge in a Speculation of this Nature. Your Majeſty's Sagacity, and happy Genius for natural Hiſtory, for Obſervations and Remarks upon the Earth, the Heavens, and the Sea, is a better Preparation for Inquiries of this kind, than all the dead Learning of the Schools.

Sir, This Theory, in the full Extent of it, is to reach to the laſt Period of the Earth, and the End of all Things; but this firſt Volume takes in only ſo much as is already paſt, from the Origin of the Earth, to this preſent Time and State of Nature. To deſcribe in like manner the Changes and Revolutions of Nature that are to come, and ſee thorough all ſucceeding Ages, will require a ſteady and attentive Eye, and a Retreat from the Noiſe of the World; eſpecially ſo to connect the Parts, and preſent them all under one View, that we may ſee, as in a Mirror, the ſeveral Faces of Nature, from firſt to laſt, throughout all the Circle of Succeſſions.

Your Majeſty having been pleas'd to give Encouragement to this Tranſlation, I humbly preſent it to your gracious Acceptance. And 'tis our

Intereſt, as well as Duty, in Diſquiſitions of this Nature, to addreſs our ſelves to your Majeſty, as the Defender of our *Philoſophick Liberties*, againſt thoſe that would uſurp upon the fundamental Privilege and Birth-right of Mankind, *The free Uſe of Reaſon.* Your Majeſty hath always appear'd the Royal Patron of Learning and the Sciences; and 'tis ſuitable to the Greatneſs of a princely Spirit to favour and promote whatſoever tends to the Enlargement of humane Knowledge, and the Improvement of humane Nature. To be Good and Gracious, and a Lover of Knowledge, are, methinks, two of the moſt amiable Things in this World: And that your Majeſty may always bear that Character in preſent and future Ages; and after a long and proſperous Reign enjoy a bleſſed Immortality, is the conſtant Prayer of

Your MAJESTY'S

Moſt Humble and moſt

Obedient Subject,

Thomas Burnet.

PREFACE

TO THE

READER.

HAVING given an Account of this whole Work in the firſt Chapter, and of the Method of either Book, whereof this Volume conſiſts, in their proper Places, there remains not much to be ſaid here to the Reader. This Theory of the Earth may be call'd *Sacred*, becauſe it is not the common Phyſiology of the Earth, or of the Bodies that compoſe it, but reſpects only the great Turns of Fate, and the Revolutions of our natural World; ſuch as are taken notice of in the Sacred Writings, and are truly the Hinges upon which the Providence of this Earth moves; or whereby it opens and ſhuts the ſeveral ſucceſſive Scenes whereof it is made up. This *Engliſh* Edition is the ſame in Subſtance with the *Latin*, though, I confeſs, 'tis not ſo properly a Tranſlation, as a new Compoſition upon the ſame Ground, there being ſeveral additional Chapters in it, and ſeveral new-moulded.

As every Science requires a peculiar Genius, ſo likewiſe there is a Genius peculiarly improper for every one: And as to Philoſophy, which is the Contemplation of the Works of Nature, and the Providence that governs them, there is no Temper or Genius, in my Mind, ſo improper for it, as that which we call a *mean* and *narrow Spirit*; and which the *Greeks* call *Littleneſs of Soul*. This is a Defect in the firſt Make of ſome Mens Minds, which can ſcarce ever be corrected afterwards, either by Learning or Age. And as Souls that are made little and incapacious cannot enlarge their Thoughts to take in any great Compaſs of Times or Things; ſo what is beyond their Compaſs, or above their Reach, they are apt to look upon as fantaſtical, or at leaſt would willingly have it paſs for ſuch in the World. Now as there is nothing ſo great, ſo large, ſo immenſe, as the Works of Nature, and the Methods of Providence, Men of this Complexion muſt needs be very unfit for the Contemplation of them. Who would ſet a purblind Man at the Top of the Maſt to diſcover Land? Or upon an high Tower to draw a Landskip of the Country round about? For the ſame Reaſon, ſhort-ſighted Minds are unfit to make Philoſophers, whoſe proper Buſineſs it is to diſcover and deſcribe in comprehenſive Theories the *Phænomena* of the World, and the Cauſes of them.

This Original Diſeaſe of the Mind is ſeldom cur'd by Learning, which cures many others; like a Fault in the firſt *Stamina* of the Body, it cannot eaſily be rectified afterwards. 'Tis a great Miſtake to think that every ſort of Learning makes a Man a competent Judge of Natural Speculations: We ſee unhappy Examples to the contrary amongſt the Chriſtian Fathers, and particularly in St. *Auſtin*, who was unqueſtionably a Man of Parts and Learning; but interpoſing in a Controverſy where his Talent did not lie, ſhow'd his Zeal againſt the *Antipodes* to very ill purpoſe, though he drew his Reaſons partly from Scripture. And if within a few Years, or in the next Generation, it ſhould prove as certain and demonſtrable, that the *Earth is mov'd*, as it is now, that there are *Antipodes*; thoſe that have been zealous againſt it, and engag'd the Scripture in the Controverſy, would have the ſame Reaſon to repent of their Forwardneſs, that St. *Auſtin* would have now, if he was alive. 'Tis a dangerous thing to engage the Authority of Scripture in Diſputes about the Natural World, in Oppoſition to Reaſon; leſt Time, which brings all Things to Light, ſhould diſcover that to be evidently falſe which we had made Scripture to aſſert: And I remember St. *Auſtin*, in his Expoſition upon *Geneſis*, hath laid down a Rule to this very purpoſe, though he had the

Unhappineſs, it ſeems, not to follow it always himſelf. The Reaſon alſo, which he gives there for his Rule, is very good and ſubſtantial: For, ſaith he[*], *if the Unbelievers or Philoſophers ſhall certainly know us to be miſtaken, and to err in thoſe things that concern the Natural World, and ſee that we alledge our* (Sacred) *Books for ſuch vain Opinions, how ſhall they believe thoſe ſame Books when they tell them of the* RESURRECTION *of the Dead, and the World to come, if they find them to be fallaciouſly writ in ſuch things as lie within their certain Knowledge?*

We are not to ſuppoſe that any Truth concerning the Natural World can be an Enemy to Religion; for Truth cannot be an Enemy to Truth, God is not divided againſt himſelf; and therefore we ought not upon that Account to condemn or cenſure what we have not examin'd or cannot diſprove; as thoſe that are of this narrow Spirit we are ſpeaking of, are very apt to do. Let every thing be try'd and examin'd in the firſt Place, whether it be *True* or *Falſe*; and if it be found falſe, 'tis then to be conſider'd, whether it be ſuch a Falſity a Falſity as is prejudicial to Religion or no. But for every new Theory that is propos'd, to be alarm'd, as if all Religion was falling about our Ears, is to make the World ſuſpect that we are very ill aſſur'd of the Foundation it ſtands upon. Beſides, do not all Men complain, even theſe as well as others, of the great Ignorance of Mankind? how little we know, and how much is ſtill unknown? and can we ever know more, unleſs ſomething new be diſcover'd? It cannot be old when it comes firſt to light, when firſt invented, and firſt propos'd. If a Prince ſhould complain of the Poorneſs of his Exchequer, and the Scarcity of Money in his Kingdom, would he be angry with his Merchants, if they brought him home a *Cargo* of good Bullion, or a Maſs of Gold out of a foreign Country? and give this Reaſon only for it, *He* would have no *new Silver*; neither ſhould any be current in his Dominions but what had his own Stamp and Image upon it: How ſhould this Prince or his People grow rich? To complain of Want, and yet refuſe all Offers of a Supply, looks very ſullen, or very fantaſtical.

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[*] *Gen. ad lit. lib.* 1. *c.* 19. *Plerumque accidit ut aliquid de Terrâ, de Cœlo, de cæteris hujus mundi elementis, &c. Cùm enim quenquam Chriſtianorum in eâ re quam optimè nôrunt, errare deprehenderint, & vanam ſententiam ſuam ex noſtris libris aſſerere, quo pacto illis libris credituri ſunt de Reſurrectione Mortuorum, & ſpe vitæ æternæ regnóque cœlorum, quando de his rebus quas jam experiri vel indubitatis numeris percipere potuerunt, fallaciter putaverint eſſe conſcriptos?*

I might mention alſo upon this Occaſion another Genius and Diſpoſition in Men, which often makes them improper for philoſophical Contemplations; not ſo much, it may be, from the Narrowneſs of their Spirit and Underſtanding, as becauſe they will not take time to extend them. I mean Men of Wit and Parts, but of ſhort Thoughts and little Meditation, and that are apt to diſtruſt every Thing for a Fancy or Fiction that is not the Dictate of Senſe, or made out immediately to their Senſes. Men of this Humour and Character call ſuch Theories as theſe philoſophick Romances, and think themſelves witty in the Expreſſion; they allow them to be pretty Amuſements of the Mind, but without Truth or Reality. I am afraid if an Angel ſhould write the Theory of the Earth, they would paſs the ſame Judgment upon it; where there is Variety of Parts in a due Contexture, with ſomething of ſurprizing Aptneſs in the Harmony and Correſpondency of them, this they call a Romance; but ſuch Romances muſt all Theories of Nature and of Providence be, and muſt have every Part of that Character with Advantage, if they be well repreſented. There is in them, as I may ſo ſay, a *Plot* or *Myſtery* purſued thro' the whole Work, and certain grand Iſſues or Events upon which the reſt depend, or to which they are ſubordinate; but theſe Things we do not make or contrive our ſelves, but find and diſcover them, being made already by the great Author and Governor of the Univerſe: And when they are clearly diſcover'd, well digeſted, and well reaſon'd in every Part, there is, methinks, more of Beauty in ſuch a Theory, at leaſt a more maſculine Beauty, than in any Poem or Romance; and that ſolid Truth that is at the Bottom, gives a Satisfaction to the Mind, that it can never have from any Fiction, how artificial ſoever it be.

To enter no further upon this Matter, 'tis enough to obſerve, that when we make Judgments and Cenſures upon general Preſumptions and Prejudices, they are made rather from the Temper and Model of our own Spirits, than from Reaſon; and therefore, if we would neither impoſe upon our ſelves, nor others, we muſt lay aſide that lazy and fallacious Method of cenſuring by the Lump, and muſt bring things cloſe to the Teſt of *True* or *Falſe*, to explicit Proof and Evidence; and whoſoever makes ſuch Objections againſt an *Hypotheſis*, hath a Right to be heard, let his Temper and Genius be what it will. Neither do we intend that any thing we have ſaid here ſhould be underſtood in another Senſe.

To conclude, This Theory being writ with a ſincere Intention to juſtify the Doctrines of the *Univerſal Deluge*, and of a *Paradiſiacal* State, and protect them from the Cavils of thoſe that are no Well-wiſhers to ſacred Hiſtory, upon that Account it may reaſonably expect fair Uſage and Acceptance with all that are well-diſpos'd; and it will alſo be, I think, a great Satisfaction to them to ſee thoſe Pieces of moſt ancient Hiſtory, which have been chiefly preſerv'd in Scripture, confirm'd a-new, and by another Light, that of Nature and Philoſophy; and alſo freed from thoſe Miſconceptions or Miſrepreſentations, which made them ſit uneaſy upon the Spirits even of the beſt Men that took Time to think. Laſtly, In things purely ſpeculative, as theſe are, and no

Ingredients of our Faith, it is free to differ from one another in our Opinions and Sentiments; and ſo I remember St. *Auſtin* hath obſerv'd upon this very Subject of *Paradiſe*; wherefore as we deſire to give no Offence our ſelves, ſo neither ſhall we take any at the Difference of Judgment in others; provided this Liberty be mutual, and that we all agree to ſtudy *Peace*, *Truth*, and a *good Life*.

CONTENTS OF THE CHAPTERS.

The FIRST BOOK.

CHAP. I.

THE Introduction: An Account of the whole Work, of the Extent and general Order of it. Page 1

CHAP. II.

A general Account of Noah's *Flood. A Computation what Quantity of Water would be neceſſary for the making of it; That the common Opinion and Explication of that Flood is not intelligible.* 10

CHAP. III.

All Evaſions concerning the Flood anſwer'd; That there was no Creation of Waters at the Deluge and that it was not particular or national, but extended throughout the whole Earth. A Prelude and Preparation to the true Account and Explication of it. The Method of the firſt Book. Page 25

CHAP. IV.

That the Earth and Mankind had an Original, and were not from Eternity; prov'd againſt Ariſtotle. *The firſt Propoſition of our Theory laid down,* viz. *That the antediluvian Earth was of a different Form and Conſtruction from the preſent. This is prov'd from divine Authority, and from the Nature and Form of the Chaos, out of which the Earth was made.* 47

CHAP. V.

The ſecond Propoſition is laid down, viz. *That* the Face of the Earth before the Deluge was ſmooth, regular and uniform; without Mountains, and without a Sea. *The Chaos out of which the World roſe is fully examin'd, and all its Motions obſerv'd, and by what Steps it wrought it ſelf into an habitable World. Some things in Antiquity relating to the firſt State of the Earth are interpreted, and*

and ſome things in the ſacred Writings. The divine Art and Geometry in the Conſtruction of the firſt Earth is obſerv'd and celebrated. Page 72

CHAP. VI.

The Diſſolution of the firſt Earth: The Deluge enſuing thereupon. And the Form of the preſent Earth riſing from the Ruins of the firſt. 90

CHAP. VII.

That the Explication we have given of an univerſal Deluge is not an IDEA *only, but an Account of what really came to paſs in the Earth, and the true Explication of* Noah's *Flood. An Examination of* Tehom-Rabba, *or the great Abyſs, and that by it the Sea cannot be underſtood, nor the ſubterraneous Waters as they are at preſent. What the true Notion and Form of it was, collected from* Moſes *and other ſacred Writers. Obſervations on* Deucalion's *Deluge.* 105

CHAP. VIII.

The particular Hiſtory of Noah's *Flood is explain'd in all the material Parts and Circumſtances of it, according to the preceding Theory. Any ſeeming Difficulties remov'd, and the whole Section concluded with a Diſcourſe how far the Deluge may be lookt upon as the Ef-*

fect of an ordinary Providence, and how far of an extraordinary. Page 131

CHAP. IX.

The ſecond Part of this Diſcourſe, proving the ſame Theory from the Effects and the preſent Form of the Earth. Firſt, by a general Scheme of what is moſt remarkable in this Globe, and then by a more particular Induction; beginning with an Account of ſubterraneous Cavities and ſubterraneous Waters. 148

CHAP. X.

Concerning the Channel of the Sea, and the Original of it; The Cauſes of its irregular Form and unequal Depths: As alſo of the Original of Iſlands, their Situation and other Properties. 175

CHAP. XI.

Concerning the Mountains of the Earth, their Greatneſs and irregular Form, their Situation, Cauſes and Origin. 191

CHAP. XII.

A ſhort Review of what hath been already treated of, and in what manner. All Methods, whether philoſophical or theological, that have been offer'd by others for the Explication of the Form of the Earth, are examin'd and refuted. A Con-

A Conjecture concerning the other Planets, their Natural Form and State compar'd with ours; eſpecially concerning Jupiter *and* Saturn. Page 209

The Second Book.

CHAP. I.

THE *Introduction and Contents of the Second Book. The general State of the Primæval Earth, and of Paradiſe.* 237

CHAP. II.

The great Change of the World ſince the Flood, from what it was in the firſt Ages. The Earth under its preſent Form could not be Paradiſiacal, nor any Part of it. 253

CHAP. III.

The Original Differences of the Primitive Earth from the Preſent or Poſtdiluvian. The three Characters of Paradiſe, *and the Golden Age, found in the Primitive Earth. A particular Explication of each Character.* 266

CHAP. IV.

A Digreſſion, concerning the Natural Cauſes of Longævity. That the Machine of an Animal conſiſts of Springs, and which are the two principal. The Age of the Antediluvians to be computed by Solar, *not* Lunar *Years.* 279

CHAP. V.

Concerning the Waters of the Primitive Earth: What the State of the Regions of the Air was then, and how all Waters proceeded from them. How the Rivers aroſe, what was their Courſe, and how they ended. Several things in Sacred Writ that confirm this Hydrography of the firſt Earth, eſpecially the Poſtdiluvian Origin of the Rainbow. 309

CHAP. VI.

A Recollection and Review of what hath been ſaid concerning the Primitive Earth, with a more full Survey of the State of the Firſt World, Natural and Civil, and the Compariſon of it with the preſent World. 331

CHAP. VII.

Concerning the Place of Paradiſe; It cannot be determin'd from the Theory only, nor from Scripture only; What the Senſe of Antiquity was

was concerning it, as to the Jews and Heathens, and eſpecially as to the Chriſtian Fathers, That they generally plac'd it out of this Continent, in the Southern Hemiſphere. 347

CHAP. VIII.

The Uſes of this Theory for the Illuſtration of Antiquity; The Chaos of the Ancients explain'd; The Inhabitability of the Torrid Zone; The Change of the Poles of the World; The Doctrine of the Mundane Egg; How America *was firſt peopled; How* Paradiſe *within the Circle of the Moon.* 365

CHAP. IX.

A general Objection againſt this Theory, viz. *That if there had been ſuch a* Primitive Earth, *as we pretend, the Fame of it would have ſounded throughout all Antiquity. The Eaſtern and Weſtern Learning conſider'd, the moſt conſiderable Records of both are loſt; what Footſteps remain relating to this Subject. The Jewiſh and Chriſtian Learning conſider'd, how far loſt as to this Argument, and what Notes or Traditions remain. Laſtly, How far the Sacred Writings bear witneſs to it. The Providential Conduct of Knowledge in the World. A Recapitulation and State of the Theory.* 381

CHAP.

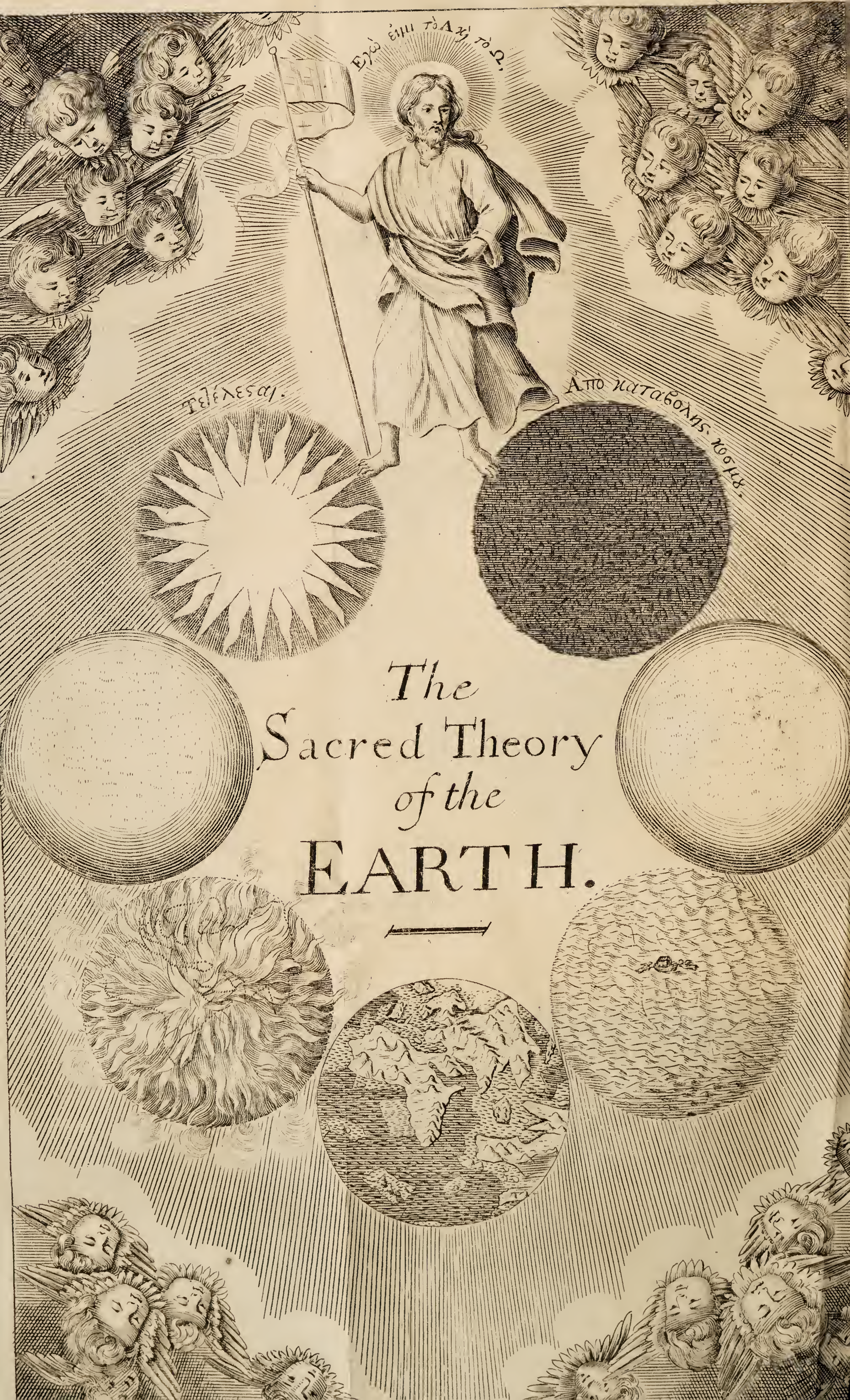
CHAP. X.

Concerning the AUTHOR *of* NATURE. Page 403

CHAP. XI.

Concerning NATURAL PROVIDENCE.

Several Incroachments upon natural Providence, or Miſrepreſentations of it, and falſe Methods of Contemplation. A true Method propos'd, and a true Repreſentation of the Univerſe. The Mundane Idea, *and the univerſal Syſtem of Providence. Several ſubordinate Syſtems. That of our Earth and ſublunary World. The Courſe and Periods of it. How much of this is already treated of, and what remains. Concluſion.* 434


Ἐγώ εἰμι τὸ Α ϗ τὸ Ω.
Τετέλεσται.
Ἀπὸ καταβολῆς κόσμου.
The
Sacred Theory
of the
EARTH.

THE THEORY OF THE EARTH.

BOOK I.

Concerning the Deluge, and the Diſſolution of the Earth.

CHAP. I.

The INTRODUCTION.

An Account of the whole Work; of the Extent and general Order of it.

SINCE I was firſt inclin'd to the Contemplation of Nature, and took Pleaſure to trace out the Cauſes of Effects, and the Dependance of one thing upon another in the viſible Creation, I had always, methought, a particular Curioſity to look back into the Sources and ORIGINAL of Things; and to view in my Mind, ſo far as I was able, the Beginning and Progreſs of a RISING WORLD.

And after ſome Eſſays of this Nature, and, as I thought, not unſucceſsful, I carried on my Enquiries further, to try whether this *Riſing World*, when form'd and finiſh'd, would continue always the ſame; in the ſame Form, Structure, and Conſiſtency; or what Changes it would ſucceſſively undergo, by the continued Action of the ſame Cauſes that firſt produc'd it; and, laſtly, what would be its final Period and Conſummation. This whole Series and Compaſs of Things taken together, I call'd a COURSE OF NATURE, or a SYSTEM OF NATURAL PROVIDENCE; and thought there was nothing belonging to the External World more fit, or more worthy our Study and Meditation, nor any Thing that would conduce more to diſcover the ways of Divine Providence, and to ſhew us the Grounds of all true Knowledge concerning Nature. And therefore to clear up the ſeveral parts of this Theory, I was willing to lay aſide a great many other Speculations, and all thoſe dry Subtilties with which the Schools, and the Books of Philoſophers are uſually fill'd.

But when we ſpeak of a *Riſing World*, and the Contemplation of it, we do not mean this of the *Great Univerſe*; for who can deſcribe the Original of that vaſt Frame? But we ſpeak of the *Sublunary World*, This Earth and its Dependencies, which roſe out of a Chaos about Six Thouſand Years ago; and ſeeing it hath faln to our Lot to act upon this Stage, to have our preſent Home and Reſidence here, it ſeems moſt reaſonable, and the Place deſign'd by Providence, where we ſhould firſt employ our Thoughts to underſtand the Works of God and Nature. We have accordingly therefore deſign'd in this Work to give an Account of the Original of the Earth, and of all the great and general Changes that it hath already undergone, or is hence forwards to undergo, till the Conſummation of all Things. For if from thoſe Principles we have here taken, and that Theory we have begun in theſe two firſt Books, we can deduce with Succeſs and Clearneſs the Origin of the Earth, and thoſe States of it that are already paſt; following the ſame Thread, and by the Conduct of the ſame Theory, we will purſue its Fate and Hiſtory thro' future Ages, and mark all the great Changes and Converſions that attend it *while Day and Night ſhall laſt*; that is, ſo long as it continues an Earth.

By the States of the Earth that are already paſt, we underſtand chiefly *Paradiſe* and the *Deluge*; Names well known, and as little known in their Nature. By the future States we underſtand the *Conflagration*, and what new Order of Nature may follow upon that, till the whole Circle of Time and Providence be compleated. As to the firſt and paſt States of the Earth, we ſhall have little help from the Ancients, or from any of the Philoſophers, for the Diſcovery or Deſcription of them; We muſt often tread unbeaten Paths, and make a Way where we do not find one; but it ſhall be always with a Light in our Hand, that we may ſee our Steps, and that thoſe that follow us may not follow us blindly. There is no Sect of Philoſophers that I know of, that ever gave an Account of the Univerſal Deluge, or diſcover'd, from the Contemplation of the Earth, that there had been ſuch a Thing already in Nature. 'Tis true, they often talk of an Alternation of *Deluges* and *Conflagrations* in this Earth, but they ſpeak of them as Things to come; at leaſt they give no Proof or Argument of any that hath already deſtroyed the World. As to *Paradiſe*, it ſeems to be repreſented to us by the *Golden Age*; whereof the Ancients tell many Stories, ſometimes very Luxuriant, and ſometimes very Defective: For they did not ſo well underſtand the difference betwixt the new-made Earth and the preſent, as to ſee what were the juſt Grounds of the Golden Age, or of Paradiſe: Tho' they had many broken Notions concerning thoſe Things, as to the *Conflagration* in particular. This hath always been reckon'd one amongſt the Opinions or Dogmata of the Stoicks, *That the World was to be deſtroyed by Fire*, and their Books are full of this Notion; but yet they do not tell us the Cauſes of the Conflagration, nor what Preparations there are in Nature, or will be, towards that great Change. And we may generally obſerve this of the *Ancients*, that their Learning or Philoſophy conſiſted more in Concluſions, than in Demonſtrations; they had many Truths among them, whereof they did not know themſelves the Premiſes or the Proofs: Which is an Argument to me, that the Knowledge they had, was not a Thing of their own Invention, or which they came to by fair Reaſoning and Obſervations upon Nature, but was delivered to them from others by Tradition and ancient Fame, ſometimes more publick, ſometimes more ſecret: Theſe Concluſions they kept in Mind, and communicated to thoſe of their School, or Sect, or Poſterity, without knowing, for the moſt part, the juſt Grounds and Reaſons of them.

'Tis the Sacred Writings of Scripture that are the beſt Monuments of Antiquity, and to thoſe we are chiefly beholden for the Hiſtory of the firſt Ages, whether Natural Hiſtory or Civil. 'Tis true, the Poets, who were the moſt Ancient Writers amongſt the *Greeks*, and ſerv'd them both for Hiſtorians, Divines, and Philoſophers, have deliver'd ſome Things concerning the firſt Ages of the World, that have a fair reſemblance of Truth, and ſome Affinity with thoſe Accounts that are given of the ſame Things by Sacred Authors, and theſe may be of uſe in due Time and Place; but yet, leſt any thing fabulous ſhould be mixt with them, as commonly there is, we will never depend wholly upon their Credit, nor aſſert any Thing upon the Authority of the Ancients which is not firſt prov'd by natural Reaſon, or warranted by Scripture.

It ſeems to me very reaſonable to believe, that beſides the Precepts of Religion, which are the principal Subject and Deſign of the Books of Holy Scripture, there may be providentially conſerv'd in them the Memory of Things and Times ſo remote, as could not be retriev'd, either by Hiſtory, or by the Light of Nature; and yet were of great Importance to be known, both for their own Excellency, and alſo to rectify the Knowledge of Men in other Things conſequential to them: Such Points may be, *Our great Epocha* or the Age of the Earth, The Origination of Mankind, The Firſt and Paradiſiacal State, The Deſtruction of the old World by an Univerſal Deluge, The Longevity of its Inhabitants, The manner of their Preſervation, and of their Peopling the ſecond Earth; and laſtly, the Fate and Changes it is to undergo. Theſe I always look'd upon as the Seeds of great Knowledge, or Heads of Theories fixt on purpoſe to give us Aim and Direction how to purſue the reſt that depend upon them. But theſe Heads, you ſee, are of a mixt Order, and we propoſe to our ſelves in this Work only ſuch as belong to the natural World; upon which I believe the Trains of Providence are generally laid; and we muſt firſt conſider how God hath order'd Nature, and then how the Oeconomy of the Intellectual World is adapted to it; for of theſe two parts conſiſt the full Syſtem of Providence. In the mean time, what Subject can be more worthy the Thoughts of any ſerious Perſon, than to view and conſider the

Riſe and Fall, and all the Revolutions, not of a Monarchy or an Empire, of the *Grecian* or *Roman* State, but of an entire World?

The Obſcurity of theſe Things, and their Remoteneſs from common Knowledge, will be made an Argument by ſome, why we ſhould not undertake them; and by others, it may be, the very ſame thing will be made an Argument why we ſhould. For my part I think *There is nothing ſo ſecret that ſhall not be brought to Light*, within the compaſs of *Our World*; for we are not to underſtand that of the whole Univerſe, nor of all Eternity, our Capacities do not extend ſo far; but whatſoever concerns this Sublunary World in the whole extent of its Duration, from the Chaos to the laſt Period, this I believe Providence hath made us capable to underſtand, and will in its due time make it known. All I ſay, betwixt the firſt Chaos and the laſt Completion of Time and all Things temporary, this was given to the Diſquiſitions of Men; On either hand is Eternity, before the World and after, which is without our reach: But that little ſpot of Ground that lies betwixt thoſe two great Oceans, this we are to cultivate, this we are Maſters of, herein we are to exerciſe our Thoughts, to underſtand and lay open the Treaſures of the Divine Wiſdom and Goodneſs hid in this part of Nature and of Providence.

As for the Difficulty or Obſcurity of an Argument, that does but add to the Pleaſure of conteſting with it, when there are hopes of Victory; and Succeſs does more than recompence all the Pains. For there is no ſort of Joy more grateful to the Mind of Man, than that which ariſeth from the Invention of Truth; eſpecially when 'tis hard to come by. Every Man hath a Delight ſuited to his Genius, and as there is Pleaſure in the right exerciſe of any Faculty, ſo eſpecially in that of Right-reaſoning; which is ſtill the greater, by how much the Conſequences are more clear, and the Chains of them more long: There is no Chace ſo pleaſant, methinks, as to drive a Thought, by good Conduct, from one end of the World to the other; and never to loſe ſight of it till it fall into Eternity, where all things are loſt as to our Knowledge.

This Theory being chiefly Philoſophical, Reaſon is to be our firſt Guide; and where that falls ſhort, or any other juſt Occaſion offers it ſelf, we may receive further Light and Confirmation from the Sacred Writings. Both theſe are to be lookt upon as of Divine Original, God is the Author of both; he that made the Scripture made alſo our Faculties, and 'twere a Reflection upon the Divine Veracity for the one or the other to be falſe when rightly us'd. We muſt therefore be careful and tender of oppoſing theſe to one another, becauſe that is, in effect, to oppoſe God to himſelf. As for Antiquity and the Teſtimonies of the Ancients, we only make general Reflections upon them, for Illuſtration rather than Proof of what we propoſe; not thinking it proper for an *Engliſh* Treatiſe to multiply Citations out of *Greek* or *Latin* Authors.

I am very ſenſible it will be much our Intereſt, that the Reader of this Theory ſhould be of an ingenuous and unprejudic'd Temper; neither does it ſo much require Book-learning and Scholarſhip, as good natural Senſe to diſtinguiſh *True* and *Falſe*, and to diſcern what is well prov'd, and what is not. It often happens that Scholaſtick Education, like a Trade, does ſo fix a Man in a particular way, that he is not fit to judge of any thing that lies out of that way; and ſo his Learning becomes a Clog to his natural Parts, and makes him more indocile, and more incapable of new Thoughts and new Improvements, than thoſe that have only the Talents of Nature. As Maſters of Exerciſe had rather take a Scholar that never learn'd before, than one that hath had a bad Maſter; ſo generally one would rather chuſe a Reader without Art, than one ill inſtructed, with Learning, but opinionative and without Judgment; yet it is not neceſſary they ſhould want either, and Learning well plac'd ſtrengthens all the Powers of the Mind. To conclude, juſt Reaſoning and a generous Love of Truth, whether with or without Erudition, is that which makes us moſt competent Judges what is true. And further than this, in the Peruſal and Examination of this Work, as to the Author, as much Candor as you pleaſe; but as to the Theory, we require nothing but Attention and Impartiality.

CHAP. II.

A general Account of Noah's *Flood; a Computation what Quantity of Water would be neceſſary for the making of it; that the common Opinion and Explication of that Flood is not intelligible.*

'TIS now more than Five Thouſand Years ſince our World was made, and tho' it would be a great Pleaſure to the Mind, to recollect and view at this Diſtance thoſe firſt Scenes of Nature; what the Face of the Earth was when freſh and new, and how things differ'd from the State we now find them in, the Speculation is ſo remote, that it ſeems to be hopeleſs, and beyond the reach of Humane Wit. We are almoſt the laſt Poſterity of the firſt Men, and faln into the dying Age of the World; by what Footſteps, or by what Guide, can we trace back our Way to thoſe firſt Ages, and the firſt Order of Things? And yet, methinks, it is reaſonable to believe, that Divine Providence, which ſees at once throughout all the Ages and Orders of the World, ſhould not be willing to keep Mankind finally and fatally ignorant of that part of Nature and of the Univerſe, which is properly their Task and Province to manage and underſtand. We are the Inhabitants of the Earth, the Lords and Maſters of it; and we are endow'd with Reaſon and Underſtanding; doth it not then properly belong to us to examine and unfold the Works of God in this part of the Univerſe, which is faln to our Lot, which is our Heritage and Habitation? And it will be found, it may be, upon a ſtricter Enquiry, that in the preſent Form and Conſtitution of the Earth there are certain Marks and Indications of its firſt State; with which if we compare thoſe things that are recorded in Sacred Hiſtory, concerning the firſt Chaos, Paradiſe, and an Univerſal Deluge, we may diſcover, by the help of thoſe Lights, what the Earth was in its firſt Original, and what Changes have ſince ſucceeded in it.

And tho' we ſhall give a full Account of the Origin of the Earth in this Treatiſe, yet that which we have propos'd particularly for the Title and Subject of it, is to give an Account of the primæval *Paradiſe*, and of the Univerſal *Deluge*, thoſe being the two moſt important things that are explain'd by the Theory we propoſe. And I muſt beg leave in treating of theſe two, to change the Order, and treat firſt of the Deluge, and then of Paradiſe: For though the State of Paradiſe doth precede that of the Flood in Sacred Hiſtory, and in the nature of the thing, yet the Explication of both will be more ſenſible,and more effectual, if we begin with the Deluge; there being more Obſervations and Effects, and thoſe better known to us, that may be refer'd to this, than to the other; and the Deluge being once truly explain'd, we ſhall from thence know the Form and Quality of the Ante-diluvian Earth. Let us then proceed to the Explication of that great and fatal Inundation, whoſe Hiſtory is well known; and according to *Moſes*, the beſt of Hiſtorians, in a few words is this——

Sixteen Hundred and odd Years after the Earth was made, and inhabited, it was overflow'd, and deſtroy'd in a Deluge of Water. Not a Deluge that was National only, or overrun ſome particular Country or Region, as *Judea* or *Greece*, or any other, but it overſpread the Face of the whole Earth, from Pole to Pole, and from Eaſt to Weſt, and that in ſuch Exceſs, that the Floods over-reacht the Tops of the higheſt Mountains; the Rains deſcending after an unuſual manner, and the Fountains of the *Great Deep* being broke open; ſo as a general Deſtruction and Devaſtation was brought upon the Earth, and all Things in it, Mankind and other living Creatures; excepting only *Noah* and his Family, who by a ſpecial Providence of God was preſerv'd in a certain Ark, or Veſſel made like a Ship, and ſuch kinds of living Creatures as he took in to him. After theſe Waters had rag'd for ſome time on the Earth, they began to leſſen and ſhrink, and the great Waves and Fluctuations of this *Deep* or *Abyſs* being quieted by degrees, the Waters retir'd into their Channels and Caverns within the Earth; and the Mountains and Fields began to appear, and the whole habitable Earth in that Form and Shape wherein we now ſee it. Then the World began again, and from that little Remnant preſerv'd in the Ark, the preſent Race of Mankind, and of

Animals, in the known parts of the Earth, were propagated. Thus periſh'd the Old World, and the preſent aroſe from the Ruins and Remains of it.

This is a ſhort Story of the greateſt Thing that ever yet hapned in the World, the greateſt Revolution and the greateſt Change in Nature; and if we come to reflect ſeriouſly upon it, we ſhall find it extreamly difficult, if not impoſſible, to give an Account of the Waters that compos'd this Deluge, whence they came or whither they went. If it had been only the Inundation of a Country, or of a Province, or of the greateſt part of a Continent, ſome proportionable Cauſes perhaps might have been found out; but a Deluge overflowing the whole Earth, the whole Circuit and whole Extent of it, burying all in Water, even the greateſt Mountains in any known parts of the Univerſe, to find Water ſufficient for this Effect, as it is generally explained and underſtood, I think is impoſſible. And that we may the better judge of the whole matter, let us firſt compute how much Water would be requiſite for ſuch a Deluge; or to lay the Earth, conſider'd in its preſent Form, and the higheſt Mountains, under Water. Then let's conſider whether ſuch a quantity of Water can be had out of all the Stores that we know in Nature: And from theſe two we will take our Ground and Riſe, and begin to reflect, whether the World hath not been hitherto miſtaken in the common Opinion and Explication of the general Deluge.

To diſcover how much Water would be requiſite to make this Deluge, we muſt firſt ſuppoſe enough to cover the plain Surface of the Earth, the Fields and lower Grounds; then we muſt heap up ſo much more upon this, as will reach above the tops of the higheſt Mountains; ſo as drawing a Circle over the tops of the higheſt Mountains quite round the Earth, ſuppoſe from Pole to Pole, and another to meet it round the middle of the Earth, all that Space or Capacity contain'd within theſe Circles is to be fill'd up with Water. This I confeſs will make a prodigious maſs of Water, and it looks frightfully to the Imagination; 'tis huge and great, but 'tis extravagantly ſo, as a great Monſter: It doth not look like the Work of God or Nature: However, let's compute a little more particularly how much this will amount to, or how many Oceans of Water would be neceſſary to compoſe this great Ocean rowling in the Air, without Bounds or Banks.

If all the Mountains were pared off the Earth, and ſo the Surface of it lay even, or in an equal Convexity every where with the Surface of the Sea, from this Surface of the Sea, let us ſuppoſe that the height of the Mountains may be a Mile and a half; or that we may not ſeem at all to favour our own Opinion or Calculation, let us take a Mile only for the perpendicular height of the Mountains. Let us on the other ſide ſuppoſe the Sea to cover half the Earth, as 'tis generally believ'd to do; and the common depth of it, taking one Place with another, to be about a quarter of a Mile, or 250 Paces. I ſay, taking one Place with another, for though the middle Channel of the great Ocean be far deeper, we may obſerve, that there is commonly a Deſcent or Declivity from the Shore to the middle part of the Channel, ſo that one comes by Degrees into the depth of it; and thoſe Shory Parts are generally but ſome Fathoms deep. Beſides, in Arms of the Sea, in Straits and among Iſlands, there is commonly no great depth, and ſome Places are plain Shallows. So as upon a moderate Computation, one Place compar'd with another, we may take a quarter of a Mile, or about an hundred Fathoms, for the common meaſure of the depth of the Sea, if we were caſt into a Channel of an equal depth every where. This being ſuppos'd, there would need four Oceans to lie upon this Ocean, to raiſe it up to the top of the Mountains, or ſo high as the Waters of the Deluge riſe; then four Oceans more to lie upon the Land, that the Water there might ſwell to the ſame height; which together make eight Oceans for the proportion of the Water requir'd in the Deluge.

'Tis true, there would not be altogether ſo much Water requir'd for the Land as for the Sea, to raiſe them to an equal height; becauſe Mountains and Hills would fill up part of that ſpace upon the Land, and ſo make leſs Water requiſite. But to compenſate this, and confirm our Computation, we muſt conſider in the firſt place, that we have taken a much leſs height of the Mountains than is requiſite, if we reſpect the Mediterraneous Mountains, or thoſe that are at a great diſtance from the Sea; for their height above the Surface of the Sea, computing the Declivity of the Land all along from the Mountains to the Sea-ſide (and that there is ſuch a Declivity, is manifeſt from the Courſe and Deſcent of the Rivers) is far greater than the Proportion we have taken: The height of Mountains is uſually taken from the Foot of them, or from the next Plain, which if it be far from the Sea, we may reaſonably allow as much for the Declenſion of the Land from that place to the Sea, as for the immediate height of the Mountain; So, for inſtance, the Mountains of the Moon in *Africa*, whence the *Nile* flows, and after a long Courſe falls into the Mediterranean Sea by *Egypt*, are ſo much higher than the Surface of that Sea, firſt, as the Aſcent of the Land is from the Sea to the Foot of the Mountains, and then as the height of the Mountains is from the bottom to the top: For both theſe are to be computed when you meaſure the height of a Mountain, or of a mountainous Land, in reſpect of the Sea: And the height of Mountains to the Sea being thus computed, there would be need of ſix or eight Oceans to raiſe the Sea alone as high as the higheſt Inland Mountains: And this is more than enough to compenſate the leſs quantity of Water that would be requiſite upon the Land. Beſides, we muſt conſider the Regions of the Air upwards to be more capacious than a Region of the ſame

Thickneſs in or near the Earth, ſo as if an Ocean pour'd upon the Surface of the dry Land, ſuppoſing it were all ſmooth, would riſe to the height of half a quarter of a Mile every where; the like quantity of Water pour'd again at the height of the Mountains, would not have altogether the ſame effect, or would not there raiſe the Maſs half a quarter of a Mile higher; for the Surfaces of a Globe, the farther they are from their Center, are the greater: and ſo accordingly the Regions that belong to them. And, laſtly, we muſt conſider that there are ſome Countries or Valleys very low, and alſo many Caverns or Cavities within the Earth, all which in this Caſe were to be firſt fill'd with Water. Theſe things being compar'd and eſtimated, we ſhall find that notwithſtanding the Room that Hills and Mountains take up on the dry Land, there would be at leaſt eight Oceans requir'd, or a Quantity of Water eight times as great as the Ocean, to bring an Univerſal Deluge upon the Earth, as that Deluge is ordinarily underſtood and explained.

The Proportion of Water for the Deluge being thus ſtated, the next thing to be done, is to enquire where this Water is to be found; if any part of the Sublunary World will afford us ſo much: Eight Oceans floating in the Air, make a great bulk of Water, I do not know what poſſible Sources to draw it from. There are the Clouds above, and the Deeps below, and in the Bowels of the Earth; and theſe are all the Stores we have for Water; and

Moſes directs us to no other for the Cauſes of the Deluge. *The Fountains* (he ſaith) *of the great Abyſs were broken up, or burſt aſunder*, and the Rain deſcended for forty Days, the *Cataracts* or *Floodgates* of Heaven being opened. And in theſe two, no doubt, are contain'd the Cauſes of the great Deluge, as according to *Moſes*, ſo alſo according to Reaſon and Neceſſity; for our World affords no other Treaſures of Water. Let us therefore conſider how much this Rain of Forty Days might amount to, and how much might flow out of the Abyſs, that ſo we may judge whether theſe two in conjunction would make up the Eight Oceans which we want.

As for the Rains, they would not afford us one Ocean, nor half an Ocean, nor the tenth part of an Ocean, if we may truſt to the Obſervations made by others concerning the Quantity of Water that falls in Rain. *Merſennus* gives us this Account of it, *Cog. Phyſ. Mech.* p. 221. "It appears by our Obſervations, that a Cubical Veſſel of Braſs, whereof we made uſe, is fill'd an Inch and an half in half an Hour's Time; but becauſe that ſucks up nothing of the Moiſture as the Earth doth, let us take an Inch for half an Hour's Rain; whence it follows, that in the ſpace of Forty Days and Nights Rain, the Waters in the Deluge would riſe, at four Feet in 24 Hours, 160 Feet, if the Rains were conſtant and equal to ours, and that it rain'd at once throughout the Face of the whole Earth." But the Rain of the Deluge, ſaith he, ſhould have been 90 times greater than this, to cover, for Inſtance, the Mountains of *Armenia*, or to reach 15 Cubits above them. So that according to his Computation, the Forty Days Rain would ſupply little more than the hundredth part of the Water requiſite to make the Deluge. 'Tis true, he makes the height of the Mountains higher than we do; but, however, if you temper the Calculation on all Sides as much as you pleaſe, the Water that came by this Rain would be a very inconſiderable part of what was neceſſary for a Deluge. If it rain'd Forty Days and Forty Nights throughout the Face of the whole Earth, in the Northern and Southern Hemiſphere all at once, it might be ſufficient to lay all the lower Grounds under Water, but it would ſignify very little as to the overflowing of the Mountains. Whence another Author upon the ſame occaſion hath this Paſſage, *Auct. cat. in* Gen. 7. 4. "If the Deluge "had been made by Rains only, there would "not have needed Forty Days, but Forty "Years Rain to have brought it to paſs." And if we ſhould ſuppoſe the whole middle Region condens'd into Water, it would not at all have been ſufficient for this Effect, according to that Proportion ſome make betwixt Air and Water; for they ſay, Air turn'd into Water, takes up a hundred times leſs room than it did before. The Truth is, we may reaſonably ſuppoſe, that all the Vapours of the middle Region were turn'd into Water in this Forty Days and Forty Nights Rain, if we

admit,

admit, that this Rain was throughout the whole Earth at once, in either Hemiſphere, in every Zone, in every Climate, in every Country, in every Province, in every Field; and yet we ſee what a ſmall Proportion all this would amount to.

Having done then with theſe Superiour Regions, we are next to examine the Inferiour, and the Treaſures of Water that may be had there. *Moſes* tells us, that the Fountains of the great Abyſs were broke open, or *clove aſunder*, as the Word there us'd doth imply; and no doubt in this lay the great Myſtery of the Deluge, as will appear when it comes to be rightly underſtood and explain'd; but we are here to conſider what is generally underſtood by the *great Abyſs*, in the common Explication of the Deluge; and 'tis commonly interpreted either to be the Sea, or Subterraneous Waters hid in the Bowels of the Earth: Theſe, they ſay, broke forth and rais'd the Waters, caus'd by the Rain, to ſuch an height that together they overflowed the higheſ Mountains. But whether or how this could be, deſerves to be a little examin'd.

And in the firſt Place; the Sea is not higher than the Land, as ſome have formerly imagin'd; fancying the Sea ſtood, as it were, upon a heap, higher than the Shore; and at the Deluge a Relaxation being made, it overflow'd the Land. But this Conceit is ſo groſs and ſo much againſt Reaſon and Experience that none I think of late have ventur'd to make uſe of it. And yet on the other hand if the Sea lie in an equal Convexity with the Land, or lower generally than the Shore, and much more than the Midland, as it is certainly known to do, what could the Sea contribute to the Deluge? It would keep its Channel, as it doth now; and take up the ſame Place. And ſo alſo the Subterraneous Waters would lie quiet in their Cells. Whatſoever Fountains or Paſſages you ſuppoſe, theſe would not iſſue out upon the Earth, for Water doth not aſcend, unleſs by Force. But lets imagine then that Force us'd and apply'd, and the Waters both of the Sea and Caverns under Ground drawn out upon the Surface of the Earth, we ſhall not be any whit the nearer for this; for if you take theſe Waters out of their Places, thoſe Places muſt be fill'd again with other Waters in the Deluge; ſo as this turns to no Account upon the whole. If you have two Veſſels to fill, and you empty one to fill the other, you gain nothing by that, there ſtill remains one Veſſel empty, you cannot have theſe Waters both in the Sea and on the Land, both above Ground and under; nor can you ſuppoſe the Channel of the Sea would ſtand gaping without Water, when all the Earth was overflow'd, and the tops of the Mountains cover'd. And ſo for Subterraneous Cavities, if you ſuppoſe the Water pumpt out, they would ſuck it in again when the Earth came to be laid under Water; ſo that upon the whole, if you thus underſtand the *Abyſs* or *great Deep*, and the breaking open its *Fountains* in this manner, it doth us no Service as to the Deluge, and where we expected the greateſt Supply, there we find none at all.

What ſhall we do then? Whither ſhall we go to find more than ſeven Oceans of Water that we ſtill want? We have been above and below; we have drain'd the whole middle Region, and we have examin'd the Deeps of the Earth; they muſt want for themſelves, they ſay, if they give us any; and, beſides, if the Earth ſhould diſgorge all the Water that it hath in its Bowels, it would not amount to above half an Ocean, which would not at all anſwer our Occaſions. Muſt we not then conclude, that the common Explication of the Deluge makes it impoſſible? there being no ſuch Quantity of Water in Nature as they make requiſite for an univerſal Deluge. Yet to give them all fair Play, having examin'd the Waters above the Earth or in the Air, the Waters upon the Earth, and the Waters under the Earth; let us alſo conſider if there be not Waters above the Heavens, and if thoſe might not be drawn down for the Deluge. *Moſes* ſpeaks of Waters *above the Firmament*, which though it be generally underſtood of the middle Region of the Air, yet ſome have thought thoſe to be Waters plac'd above the higheſt Heavens, or *Super-celeſtial* Waters; and have been willing to make uſe of them for a Supply, when they could not find Materials enough under the Heavens to make up the great Maſs of the Deluge. But the Heavens above, where theſe Waters lay, are either ſolid, or fluid; if ſolid, as Glaſs or Cryſtal, how could the Waters get through them to deſcend upon the Earth? If fluid as the Air or Æther, how could the Waters reſt upon them? for Water is heavier than Air or Æther; ſo that I am afraid thoſe pure Regions will prove no fit Place for that Element, upon any account. But ſuppoſing theſe Waters there, how imaginary ſoever, and that they were brought down to drown the World in that vaſt Quantity that would be neceſſary, what became of them, when the Deluge ceas'd? Seven or eight Oceans of Water, with the Earth wrapt up in the middle of them, how did it ever get quit of them? How could they be diſpos'd of when the Earth was to be dry'd, and the World renew'd? It would be a hard Task to lift them up again among the Spheres, and we have no room for them here below. The Truth is, I mention this Opinion of the Heavenly Waters, becauſe I would omit none that had ever been made uſe of to make good the common Explication of the Deluge; but otherwiſe, I think, ſince the Syſtem of the World hath been better known, and the Nature of the Heavens, there are none that would ſeriouſly aſſert theſe Super-celeſtial Waters, or, at leaſt, make uſe of them ſo extravagantly, as to bring them down hither for Cauſes of the Deluge.

We have now employ'd our laſt and utmoſt Endeavours to find out Waters for the vulgar Deluge, or for the Deluge as commonly underſtood; and you ſee with how little Succeſs; we have left no Corner unſought, where there was any Appearance or Report of Water to be found, and yet we have not been able to collect the eighth part of what was neceſſary upon a moderate Account. May we not then with Aſſurance conclude, that the World hath taken wrong Meaſures hitherto in their Notion and Explication of the general Deluge? They make it impoſſible and unintelligible upon a double Account, both in requiring more Water than can be found, and more than can be diſpos'd of, if it was found; or could any way be withdrawn from the Earth when the Deluge ſhould ceaſe. For if the Earth was encompaſs'd with eight Oceans of Water heapt one upon another, how theſe ſhould retire into any Channels, or be drain'd off, or the Earth any way diſengag'd from them, is not intelligible; and that in ſo ſhort a Time as ſome Months: For the Violence of the Deluge laſted but four or five Months, and in as many Months after the Earth was dry and habitable. So as upon the whole Enquiry, we can neither find Source nor Iſſue, Beginning nor Ending, for ſuch an exceſſive Maſs of Waters as the vulgar Deluge requir'd; neither where to have them, nor if we had them, how to get quit of them. And I think Men cannot do a greater Injury or Injuſtice to Sacred Hiſtory, than to give ſuch Repreſentations of things recorded there, as make them unintelligible and incredible; and on the other hand, we cannot deſerve better of Religion and Providence, than by giving ſuch fair Accounts of all things propos'd by them, or belonging to them, as may ſilence the Cavils of Atheiſts, ſatisfy the Inquiſitive, and recommend them to the Belief and Acceptance of all reaſonable Perſons.

CHAP. III.

All Evaſions anſwered; That there was no new Creation of Waters at the Deluge: And that it was not Particular or National, but extended throughout the whole Earth. A Prelude and Preparation to the true Account and Explication of it: The method of the firſt Book.

THough in the preceding Chapter we may ſeem to have given a fair Trial to the common Opinion concerning the ſtate of the Deluge, and might now proceed to Sentence of Condemnation; yet having heard of another Plea, which ſome have us'd in its behalf, and another way found out by recourſe to the Supream Power, to ſupply all defects, and to make the whole matter intelligible, we will proceed no further till that be conſider'd; being very willing to examine whatſoever may be offer'd, in that or any other way, for reſolving that great Difficulty which we have propos'd, concerning *the Quantity of Water requiſite for ſuch a Deluge.* And to this they ſay in ſhort, that *God Almighty created Waters on purpoſe to make the Deluge, and then annihilated them again when the Deluge was to ceaſe*; and this, in a few Words, is the whole Account of the Buſineſs. This is to cut the Knot when we cannot looſe it; they ſhew us the naked

Arm of Omnipotency; ſuch Arguments as theſe come like Lightning, one doth not know what Armour to put on againſt them, for they pierce the more, the more they are reſiſted: We will not therefore oppoſe any thing to them that is hard and ſtubborn, but by a ſoft Anſwer deaden their Force by degrees.

And I deſire to mind thoſe Perſons in the firſt Place of what St. *Auſtin* hath ſaid upon a like Occaſion, ſpeaking concerning thoſe that diſprov'd the Opinion of Waters above the Heavens (which we mention'd before) by natural Reaſons. "We are not, ſaith he, to re-
" fute thoſe Perſons, by ſaying, that accord-
" ing to the Omnipotence of God, to whom
" all things are poſſible, we ought to believe
" there are Waters there as heavy as we know
" and feel them here below; for our Buſineſs
" is now to enquire according to his Scripture,
" how God hath conſtituted the Nature of
" things, and not what he could do or work
" in theſe things by a Miracle of Omnipo-
" tency." I deſire them to apply this to the preſent Argument for the firſt Anſwer.

Secondly, let them conſider, that *Moſes* hath aſſign'd Cauſes of the Deluge; *Forty Days Rain, and the Diſruption of the Abyſs*; and ſpeaks nothing of a new Creation of Water upon that Occaſion. Thoſe were Cauſes in Nature which Providence had then diſpos'd for this extraordinary effect, and thoſe the Divine Hiſtorian refers us to, and not to any Productions out of nothing. Beſides, *Moſes* makes the Deluge increaſe by degrees with the Rain, and accordingly makes it ceaſe by degrees,and that the Waters *going and returning*, as the Waves and great Commotions of the Sea uſe to do, retir'd leiſurely from the Face of the Earth, and ſettled at length in their Channels. Now this manner of the Beginning or Ceaſing of the Deluge doth not at all agree with the inſtantaneous Actions of Creation and Annihilation.

Thirdly, let them conſider, that St. *Peter* hath alſo aſſign'd *Cauſes* of the Deluge, 2 *Pet.* 3. 6. namely the particular Conſtitution of the Earth and Heavens before the Flood; by *reaſon whereof*, he ſaith, *the World that was then, periſht in a Deluge of Water.* And not by reaſon of a new Creation of Water. His Words are theſe: "The Heavens and the "Earth were of old, conſiſting of Water, "and by Water; whereby, or by reaſon "whereof, the World that then was, being "overflowed with Water, periſhed.

Fourthly, they are to conſider, that as we are not raſhly to have recourſe to the Divine Omnipotence upon any Account, ſo eſpecially not for new Creations; and leaſt of all for the Creation of new Matter. The Matter of the Univerſe was created many Ages before the Flood, and the Univerſe being full, if any more was created, then there muſt be as much annihilated at the ſame time to make room for it; for Bodies cannot penetrate one anothers Dimenſions, nor be two or more within one and the ſame Space. Then on the other hand, when the Deluge ceas'd, and theſe Waters were annihilated, ſo much other Matter muſt be created again to take up their Places: And methinks they make very bold with the Deity, when they make him do and undo, go forward and backwards by ſuch Countermarches and Retractions, as we do not willingly impute to the Wiſdom of God Almighty.

Laſtly, I ſhall not think my Labour loſt, if it be but acknowledg'd, that we have ſo far clear'd the Way in this Controverſy, as to have brought it to this Iſſue; that either there muſt be new Waters created on purpoſe to make a Deluge, or there could be no Deluge, as 'tis vulgarly explain'd; there not being Water ſufficient in Nature to make a Deluge of that kind. This, I ſay, is a great ſtep, and, I think, will ſatisfy all Parties, at leaſt all that are conſiderable; for thoſe that have recourſe to a new Creation of Waters, are of two ſorts, either ſuch as do it out of Lazineſs and Ignorance, or ſuch as do it out of Neceſſity, ſeeing they cannot be had otherwiſe; as for the firſt, they are not to be valu'd or gratify'd; and as for the ſecond, I ſhall do a thing very acceptable to them, if I free them and the Argument from that Neceſſity; and ſhow a way of making the Deluge fairly intelligible, and accountable without the Creation of new Waters; which is the Deſign of this Treatiſe. For we do not tie this Knot with an Intention to puzzle and perplex the Argument finally with it; but the harder it is ty'd, we ſhall feel the Pleaſure more ſenſibly when we come to looſe it.

It may be when they are beaten from this new Creation of Water, they will ſay the Element of Air was chang'd into Water, and that was the great Store-houſe for the Deluge. Forty Days Rain we allow, as *Moſes* does, but if they ſuppoſe any other Tranſelementation, it neither agrees with *Moſes*'s Philoſophy, nor St. *Peter*'s; for then the *opening of the Abyſs* was needleſs, and the Form and Conſtitution of the Antediluvian *Heavens* and *Earth*, which St. *Peter* refers the Deluge to, bore no part in the Work; it might have been made, in that way, indifferently under any Heavens, or Earth. Beſides, they offend againſt St. *Auſtin*'s Rule in this Method too; for I look upon it as no leſs a Miracle to turn Air into Water, than to turn Water into Wine. *Air*, I ſay, for Vapours indeed are but Water made volatile; but pure Air is a Body of another Species, and cannot by any Compreſſion or Condenſation, ſo far as is yet known, be chang'd into Water. And laſtly, if the whole Atmoſphere was turn'd into Water, 'tis very probable it would make no more than 34 foot or thereabouts; for ſo much Air or Vapours as is of the ſame weight with any certain Quantity of Water, 'tis likely, if it was chang'd into Water, would alſo be of the ſame Bulk with it, or not much more: Now according to the Doctrine of the Gravitation of the Atmoſphere, 'tis found that 34 foot of Water does counterbalance a proportionable Cylinder of Air reaching to the top of the Atmoſphere; and conſequently, if the whole Atmoſphere was converted into Water, it would make no more than eleven or twelve Yards Water about the Earth; which the Cavities of the Earth would be able in a good meaſure to ſuck up, at leaſt this is very inconſiderable as to our eight Oceans. And if you would change the higher Regions into Water too, what muſt ſupply the Place of that Air which you transform into Water, and bring down upon the Earth? There would be little left but Fire and Æther betwixt us and the Moon, and I am afraid it would endanger to ſuck down the Moon too after it. In a word, ſuch an Explication as this, is both purely imaginary, and alſo very operoſe, and would affect a great part of the Univerſe; and after all, they would be as hard put to it to get rid of this Water, when the Deluge was to ceaſe, as they were at firſt to procure it.

Having now examin'd and anſwered all the Pleas, from firſt to laſt, for the vulgar Deluge, or the old way of explaining it, we ſhould proceed immediately to propoſe another Method, and another Ground for an univerſal Deluge, were it not that an Opinion hath been ſtarted by ſome of late, that would in effect ſupplant both theſe Methods, old and new, and take away in a great meaſure the Subject of the Queſtion. Some modern Authors obſerving what ſtraits they have been put to in all Ages, to find out Water enough for *Noah*'s Flood, have ventur'd upon an Expedient more briſk and bold than any of the Ancients durſt venture upon: They ſay, *Noah*'s Flood was not Univerſal, but a National Inundation, confin'd to *Judea*, and thoſe Countries thereabouts; and conſequently, there would not be ſo much Water neceſſary for the Cauſe of it, as we have prov'd to be neceſſary for an Univerſal Deluge of that kind. Their Inference is very true, they have avoided that Rock, but they run upon another no leſs dangerous; to avoid an Objection from Reaſon they deny matter of Fact, and ſuch matter of Fact as is well atteſted by Hiſtory, both Sacred and Prophane. I believe the Authors that ſet up this Opinion, were not themſelves ſatisfied with it: but ſeeing inſuperable Difficulties in the old Way, they are the more excuſable in chuſing, as they thought, of two evils the leſs.

But the Choice, methinks, is as bad on this hand, if all things be conſider'd; *Moſes* repreſents the Flood of *Noah* as an Overthrow and Deſtruction of the whole Earth; and who can imagine, that in ſixteen or ſeventeen hundred Years time (taking the lower Chronology) that the Earth had then ſtood, Mankind ſhould be propagated no further than *Judea*, or ſome neighbouring Countries thereabouts? After the Flood, when the World was renew'd again by eight Perſons, they had made a far greater Progreſs in *Aſia*, *Europe*, and *Africa*, within the ſame ſpace of Years, and yet 'tis likely they were more fruitful in the firſt Ages of the World, than after the Flood; and they liv'd ſix, ſeven, eight, nine hundred Years a piece, getting Sons and Daughters. Which Longevity of the firſt Inhabitants of the Earth ſeems to have been providentially deſign'd for the quicker Multiplication and Propagation of Mankind; and Mankind thereby would become ſo numerous within ſixteen hundred Years, that there ſeems to me to be a greater Difficulty from the multitude of the People that would be before the Flood, than from the want of People. For if we allow the firſt Couple at the end of one hundred Years, or of the firſt Century, to have left ten pair of Breeders, which is no hard Suppoſition, there would ariſe from theſe, in fifteen hundred Years, a greater number than the Earth was capable of; allowing every Pair to multiply in the ſame decuple Proportion the firſt Pair did. But becauſe this would riſe far beyond the Capacities of this Earth, let us ſuppoſe them to increaſe, in the following Centuries, in a quintuple Proportion only, or, if you will, only in a quadruple; and then the Table of the Multiplication of Mankind, from the Creation to the Flood, would ſtand thus;

Century 1——10
2——40
3——160
4——640
5——2560
6——10240
7——40960
8——163840
9——655360
10——2621440
11——10485760
12——41943040
13——167772160
14——671088640
15——2684354560
16——10737418240

This Product is too exceſſive high, if compared with the preſent number of Men upon the face of the Earth, which I think is commonly eſtimated to be betwixt three and four hundred Millions; and yet this Proportion of their Increaſe ſeems to be low enough, if we take one Proportion for all the Centuries; for, in reality, the ſame meaſure cannot run equally thro' all the Ages; but we have taken this as moderate and reaſonable betwixt the higheſt and the loweſt; but if we had taken only a triple Proportion, it would have been ſufficient (all things conſider'd) for the purpoſe. There are ſeveral other ways of computing this number, and ſome more particular and exact than this is, but which way ſoever you try, you ſhall find the Product great enough for the Extent of this Earth; and if you follow the Septuagint Chronology, it will ſtill be far higher. I have met with three or four different Calculations, in ſeveral Authors, of the number of Mankind before the Flood, and never met with any yet, but what exceeded the number of the People that are at preſent upon the face of the Earth. So as it ſeems to me a very groundleſs and forc'd Conceit to imagine, that *Judea* only, and ſome parts about it in *Aſia*, were ſtor'd with People when the Deluge was brought upon the old World. Beſides, if the Deluge was confin'd to thoſe Countries, I do not ſee but the Borderers might have eſcap'd, ſhifting a little into the adjoining Places where the Deluge did not reach. But eſpecially what needed ſo much ado to build an Ark to ſave *Noah* and his Family, if he might have ſav'd himſelf and them, only by retiring into ſome neighbouring Country; as *Lot* and his Family ſav'd themſelves, by withdrawing from *Sodom* when the City was to be deſtroyed? Had not this been a far eaſier thing, and more compendious, than the great Preparations he made of a large Veſſel, with Rooms for the Reception and Accommodation of Beaſts and Birds? And now I mention Birds, why could not they at leaſt have flown into the next dry Country? they might have pearch'd upon the Trees, and the tops of the Mountains by the way to have reſted themſelves if they were weary, for the Waters did not all of a ſudden riſe to the Mountains tops.

I cannot but look upon the Deluge as a much more conſiderable thing than theſe Authors would repreſent it, and as a kind of Diſſolution of Nature. *Moſes* calls it a deſtroying of the *Earth*, as well as of Mankind, *Gen.* 6. 13. And the Bow was ſet in the Cloud to ſeal the Covenant, *that he would deſtroy the Earth no more*, *Gen.* 9. 11. or that there ſhould be no more a Flood *to deſtroy the Earth*. And 'tis ſaid, *verſe* 13. that the Covenant was made between God and the Earth, or this Frame of Nature, that it ſhould periſh no more by Water. And the Rain-bow, which was a Token and Pledge of this Covenant, appears not only in *Judea*, or ſome other *Aſiatick* Provinces, but to all the Regions of the Earth, who had an equal Share and Concern in it. *Moſes* ſaith alſo the Fountains of the great Abyſs were burſt aſunder to make the Deluge, and what means this Abyſs and the burſting of it, if reſtrain'd to *Judea*, or ſome adjacent Countries? What Appearance is there of this Diſruption *there*, more than in other Places? Furthermore, St. *Peter* plainly implies, 2 *Epiſt. c.* 5. 6. that the Antediluvian Heavens and Earth periſhed in the Deluge; and oppoſeth the preſent Earth and Heavens to them, as different and of another Conſtitution; and ſaith, that theſe ſhall periſh by Fire, as the other periſh'd by Water. So he compares the Conflagration with the Deluge, as two general Diſſolutions of Nature, and one may as well ſay, that the Conflagration ſhall be only National, and but two or three Countries burnt in that laſt Fire, as to ſay that the Deluge was ſo. I confeſs that Diſcourſe of St. *Peter*, concerning the ſeveral States of the World, would ſufficiently convince me, if there was nothing elſe, That the Deluge was not a particular or National Inundation, but a *mundane* Change, that extended to the whole Earth, and both to the (lower) Heavens and Earth.

All Antiquity, we know, hath ſpoke of theſe Mundane Revolutions or Periods, that the World ſhould be ſucceſſively deſtroy'd by Water and Fire; and I do not doubt but that this Deluge of *Noah*'s, which *Moſes* deſcribes, was the firſt and leading Inſtance of this kind; and accordingly we ſee that after this Period, and after the Flood, the Bleſſing for Multiplication, and for repleniſhing the Earth with Inhabitants, was as ſolemnly pronounc'd by God Almighty, as at the firſt Creation of Man, *Gen.* 9. 1. with *Gen.* 1. 28. Theſe Conſiderations, I think, might be ſufficient to give us Aſſurance from Divine Writ of the Univerſality of the Deluge, and yet *Moſes* affords us another Argument as demonſtrative as any, when in the Hiſtory of the Deluge, he ſaith, *Gen.* 7. 19. *The Waters exceedingly prevail'd upon the Earth, and all the high Hills that were under the whole Heavens were covered.* All the high Hills, he ſaith, *under the whole Heavens*, then quite round the Earth; and if the Mountains were cover'd quite round the Earth, ſure the Plains could not ſcape. But to argue with them upon their own Grounds: Let us ſuppoſe only the *Aſiatick* and *Armenian* Mountains covered with theſe Waters, this they cannot deny; then unleſs there was a Miracle to keep theſe Waters upon heaps, they would flow throughout the Earth; for theſe Mountains are high enough to make them fall every way, and make them join with our Seas that environ the Continent. We cannot imagine Hills and Mountains of Water to have hung about *Judea*, as if they were congeal'd, or a Maſs of Water to have ſtood upon the middle of the Earth like one great Drop, or a trembling Jelly, and all the Places about it dry and untouch'd. All liquid Bodies are diffuſive; for their parts being in motion have no Tie or Connexion one with another, but glide and fall off any way, as Gravity and the Air preſſeth them; ſo the Surface of Water doth always conform into a Spherical Convexity with the reſt of the Globe of the Earth, and every part of it falls as near to the Center as it can; wherefore when theſe Waters began to riſe at firſt, long before they could ſwell to the heighth of the Mountains, they would diffuſe themſelves every way, and thereupon all the Valleys and Plains, and lower parts of the Earth would be filled throughout the whole Earth, before they could riſe to the tops of the Mountains in any part of it: And the Sea would be all raiſed to a conſiderable heighth before the Mountains could be covered. For let's ſuppoſe, as they do, that this Water fell not throughout the whole Earth, but in ſome particular Country, and there made firſt a great Lake; this Lake when it begun to ſwell would every way diſcharge it ſelf by any Deſcents or Declivities of the Ground, and theſe Iſſues and Derivations being once made, and ſupplied with new Waters puſhing them forwards, would continue their Courſe till they arriv'd at the Sea; juſt as other Rivers do, for theſe would be but ſo many Rivers riſing out of this Lake, and would not be conſiderably deeper and higher at the Fountain than in their Progreſs or at the Sea. We may as well then expect that the *Leman* Lake, for Inſtance, out of which the *Rhone* runs, ſhould ſwell to the tops of the *Alpes* on the one hand, and the Mountains of *Switzerland* and *Burgundy* on the other, and then ſtop, without overflowing the plainer Countries that lie beyond them; as to ſuppoſe that this Diluvian Lake ſhould riſe to the Mountains tops in one Place, and not diffuſe it ſelf equally into all Countries about, and upon the Surface of the Sea; in Proportion to its heighth and depth in the Place where it firſt fell or ſtood.

Thus much for Sacred Hiſtory. The Univerſality of the Deluge is alſo atteſted by profane Hiſtory; for the Fame of it is gone through the Earth, and there are Records or Traditions concerning it, in all parts of this and the new-found World. The *Americans* do acknowledge and ſpeak of it in their Continent, as *Acoſta* witneſſeth, and *Laet* in their Hiſtories of them. *Mart.* The *Chineſes* have the Tradition of it, which is the fartheſt part of our Continent; and the nearer and Weſtern parts of *Aſia* is acknowledg'd the proper Seat of it. Not to mention *Deucalion's* Deluge in the *European* parts, which ſeems to be the ſame under a diſguiſe: So as you may trace the Deluge quite round the Globe in profane Hiſtory; and which is remarkable, every one of theſe People have a Tale to tell, ſome one way, ſome another, concerning the Reſtauration of Mankind; which is an Argument that they thought all Mankind deſtroy'd by that Deluge. In the old Diſpute between the *Scythians* and the *Ægyptians* for Antiquity, which *Juſtin* mentions, they refer to a former Deſtruction of the World by Water or Fire, and argue whether Nation firſt roſe again, and was original to the other. So the *Babylonians*, *Aſſyrians*, *Phœnicians* and others, mention the Deluge in their Stories. And we cannot without offering Violence to all Records and Authority, Divine and Humane, deny that there hath been an univerſal Deluge upon the Earth; and if there was an univerſal Deluge, no queſtion it was that of *Noah's*, and that which *Moſes* deſcrib'd, and that which we treat of at preſent.

Theſe Conſiderations, I think, are abundantly ſufficient to ſilence that Opinion, concerning the Limitation and Reſtriction of the Deluge to a particular Country or Countries. It ought rather to be lookt upon as an Evaſion indeed than Opinion, ſeeing the Authors do not offer any poſitive Argument for the Proof of it, but depend only upon that negative Argument, That an univerſal Deluge is a thing unintelligible. This ſtumbling-ſtone we hope to take away for the future, and that Men ſhall not be put to that unhappy Choice, either to deny Matter of Fact well atteſted, or admit an Effect, whereof they cannot ſee any poſſible Cauſes. And ſo having ſtated and propos'd the whole Difficulty, and try'd all ways offer'd by others, and found them ineffectual, let us now apply our ſelves by degrees to unty the Knot.

The exceſſive Quantity of Water is the great Difficulty, and the Removal of it afterwards. Thoſe eight Oceans lay heavy upon my Thoughts, and I caſt about every way to find an Expedient, or to find ſome way whereby the ſame Effect might be brought to paſs with leſs Water, and in ſuch a manner, that that Water might afterwards conveniently be diſcharg'd. The firſt Thought that came into my Mind upon that Occaſion, was concerning the Form of the Earth, which I imagin'd might poſſibly at that time be different from what it is at preſent, and come nearer to Plainneſs and Equality in the Surface of it, and ſo might the more eaſily be overflow'd, and the Deluge perform'd with leſs Water. This Opinion concerning the Plainneſs of the firſt Earth, I alſo found in Antiquity, mention'd and refer'd to by ſeveral Interpreters in their Commentaries upon *Geneſis*, either upon Occaſion of the Deluge, or of that Fountain which is ſaid, *Gen.* 2. 6. to have watered the Face of the whole Earth: And a late eminent Perſon, the Honour of his Profeſſion for Integrity and Learning, in his Diſcourſe concerning the *Origination of Mankind*, hath made a like Judgment of the State of the Earth before the Deluge, that the Face of it was more ſmooth and and regular than it is now. But yet upon ſecond Thoughts, I eaſily ſee that this alone would not be ſufficient to explain the Deluge, nor to give an Account of the preſent Form of the Earth, unequal and mountainous as it is. 'Tis true this would give a great Advantage to the Waters, and the Rains that fell for Forty Days together would have a great Power over the Earth, being plain and ſmooth; but how would theſe Waters be diſpos'd of when the Deluge ceas'd? or how could it ever ceaſe? Beſides, what means the Diſruption of the great *Deep*, or the great *Abyſs*, or what anſwers to it upon this Suppoſition? This was aſſuredly of no leſs Conſideration than the Rains, nay, I believe, the Rains were but preparatory in ſome meaſure, and that the Violence and Conſummation of the Deluge depended upon the Diſruption of the great Abyſs. Therefore I ſaw it neceſſary, to my firſt Thought, concerning the Smoothneſs and Plainneſs of the Antediluvian Earth, to add a ſecond, concerning the Diſruption and Diſſolution of it; for as it often happens in Earthquakes, when the exterior Earth is burſt aſunder, and a great Flood of Waters iſſues out, according to the Quantity and Force of them, an Inundation is made in thoſe parts, more or leſs; ſo I thought, if that Abyſs lay under Ground and round the Earth, and we ſhould ſuppoſe the Earth in this manner to be broken in ſeveral Places at once, and as it were a general Diſſolution made, we might ſuppoſe that to make a general Deluge, as well as a particular Diſſolution often makes a particular. But I will not anticipate here the Explication we intend to give of the univerſal Deluge in the following Chapters; only by this previous Intimation we may gather ſome Hopes, it may be, that the Matter is not ſo deſperate as the former Repreſentation might poſſibly make us fancy it.

Give me leave to add farther in this Place, that it hath been obſerv'd by ſeveral, from the Contemplation of Mountains and Rocks and Precipices, of the Channel of the Sea, and of Iſlands, and of Subterraneous Caverns, that the Surface of the Earth, or the exterior Region which we inhabit, hath been broke, and the parts of it diſlocated: And one might inſtance more particularly in ſeveral Parcels of Nature, that retain ſtill the evident Marks of Fraction and Ruin; and by their preſent

Form and Poſture ſhow, that they have been once in another State and Situation one to another. We ſhall have occaſion hereafter to give an Account of theſe *Phænomena*, from which ſeveral have rightly argu'd and concluded ſome general Rupture or Ruin in the ſuperficial parts of the Earth. But this Ruin, it is true, they have imagin'd and explain'd ſeveral ways, ſome thinking that it was made the *third Day* after the Foundation of the Earth; when they ſuppoſe the Channel of the Sea to have been form'd, and Mountains and Caverns at the ſame time, by a violent Depreſſion of ſome parts of the Earth, and an Extruſion and Elevation of others to make them room. Others ſuppoſe it to have come not all at once, but by degrees, at ſeveral times, and in ſeveral Ages, from particular and accidental Cauſes, as the Earth falling in upon Fires under Ground, or Water eating away the lower Parts, or Vapours and Exhalations breaking out, and tearing the Earth. 'Tis true, I am not of their Opinion in either of theſe Explications; and we ſhall ſhow at large hereafter, when we have propos'd and ſtated our own Theory, how incompetent ſuch Cauſes are, to bring the Earth into that Form and Condition we now find it in. But in the mean time, we may ſo far make uſe of theſe Opinions in general, as not to be ſtartled at this Doctrine, concerning the Breaking or Diſſolution of the exterior Earth; for in all Ages the Face of Nature hath provok'd Men to think of and obſerve ſuch a thing. And who can do otherwiſe, to ſee the Elements diſplac'd and diſorder'd, as they ſeem to lie at preſent; the heavieſt and groſſeſt Bodies in the higheſt Places, and the liquid and volatile kept below; an huge Maſs of Stone or Rock rear'd into the Air, and the Water creeping at its Feet; whereas this is the more light and active body, and by the Law of Nature ſhould take place of Rocks and Stones? So we ſee, by the like diſorder, the Air thrown down into Dungeons of the Earth, and the Earth got up among the Clouds; for there are the tops of the Mountains, and under their roots in Holes and Caverns the Air is often detain'd. By what regular Action of Nature can we ſuppoſe things firſt produc'd in this Poſture and Form? Not to mention how broke and torn the inward Subſtance of the Earth is, which of it ſelf is an uniform Maſs, cloſe and compact: but in the Condition we ſee it, it lies hollow in many places, with great Vacuities intercepted betwixt the Portions of it; a thing which we ſee happens in all Ruins more or leſs, eſpecially when the parts of the Ruins are great and inflexible. Then what can have more the Figure and Mien of a Ruin, than Crags and Rocks and Cliffs, whether upon the Sea ſhore, or upon the Sides of Mountains? what can be more apparently broke, than they are? and thoſe leſſer Rocks, or great bulky Stones that lie often ſcatter'd near the Feet of the other, whether in the Sea, or upon the Land, are they not manifeſt Fragments, and Pieces of thoſe greater Maſſes? Beſides, the

Poſture of theſe Rocks, which is often leaning or recumbent, or proſtrate, ſhows to the Eye, that they have had a Fall, or ſome kind of Diſlocation from their natural Site. And the ſame thing may be obſerv'd in the Tracks and Regions of the Earth, which very ſeldom for 10 Miles together have any regular Surface or Continuity one with another, but lie high and low, and are variouſly inclin'd ſometimes one way, ſometimes another, without any Rule or Order. Whereas I ſee no Reaſon but the Surface of the Land ſhould be as regular as that of the Water in the firſt Production of it; and the Strata or Beds within lie as even. This I am ſure of, that this Diſpoſition of the Elements, and the parts of the Earth, outward and inward, hath ſomething irregular and unnatural in it, and manifeſtly ſhews us the Marks or Footſteps of ſome kind of Ruin and Diſſolution; which we ſhall ſhew you, in its due place, happen'd in ſuch a way, that at the ſame time a general Flood of Waters would neceſſarily over-run the Face of the whole Earth. And by the ſame fatal blow, the Earth fell out of that regular Form, wherein it was produc'd at firſt, into all theſe Irregularities which we ſee in its preſent Form and Compoſition; ſo that we ſhall give thereby a double Satisfaction to the Mind, both to ſhew it a fair and intelligible account of the general Deluge, how the Waters came upon the Earth, and how they return'd into their Channels again, and left the Earth habitable; and likewiſe to ſhew it how the Mountains were brought forth, and the Channel of the Sea diſcover'd: How all thoſe Inequalities came in the Body or Face of the Earth, and thoſe empty Vaults and Caverns in its Bowels; which things are no leſs matter of Admiration than the Flood it ſelf.

But I muſt beg leave to draw a Curtain before the Work for a while, and to keep your Patience a little in ſuſpenſe, till Materials are prepar'd, and all things ready to repreſent and explain what we have propos'd. Yet I hope in the mean time to entertain the Mind with Scenes no leſs pleaſing, though of quite another Face and Order: for we muſt now return to the beginning of the World, and look upon the firſt Rudiments of Nature, and that dark but fruitful Womb, out of which all things ſprang, I mean the *Chaos*: For this is the matter which we muſt next work upon, and it will be no unpleaſing thing to obſerve, how that rude Maſs will ſhoot it ſelf into ſeveral Forms, one after another, till it comes at length to make an habitable World. The ſteady Hand of Providence, which keeps all things in Weight and Meaſure, being the inviſible Guide of all its Motions. Theſe Motions we muſt examine from firſt to laſt, to find out what was the Form of the Earth, and what was the Place or Situation of the Ocean, or the great Abyſs, in that firſt State of Nature: Which two things being determin'd, we ſhall be able to make a certain Judgment, what kind of Diſſolution that Earth was capable of, and whether from that Diſſolution an Univerſal Deluge would follow, with all the Conſequences of it.

In the mean time, for the Eaſe and Satisfaction of the Reader, we will here mark the Order and Diſtribution of the firſt Book, which we divide into three Sections; whereof the firſt is theſe three Chapters paſt: in the ſecond Section we will ſhew, that the Earth before the Deluge was of a different Frame and Form from the preſent Earth; and particularly of ſuch a Form as made it ſubject to a Diſſolution: And to ſuch a Diſſolution, as did neceſſarily expoſe it to an univerſal Deluge. And in this place we ſhall apply our Diſcourſe particularly to the Explication of *Noah's* Flood, and that under all its Conditions,of the heighth of the Waters, of their Univerſality, of the Deſtruction of the World by them, and of their retiring afterwards from the Earth; and this Section will conſiſt of the Fourth, Fifth, Sixth, Seventh and Eighth Chapters. In the Third Section we prove the ſame Diſſolution from the Effects and Conſequences of it, or from the Contemplation of the preſent Face of the Earth: And here an account is given of the Origin of Mountains, of Subterraneous Waters and Caverns, of the great Channel of the Sea, and of the firſt Production of Iſlands; and thoſe things are the Contents of the Ninth, Tenth and Eleventh Chapters. Then, in the laſt Chapter, we make a general Review of the whole Work, and a general Review of Nature; that by comparing them together, their full Agreement and Correſpondency may appear.

pear. Here ſeveral collateral Arguments are given for Confirmation of the preceding Theory, and ſome Reflections are made upon the ſtate of the other Planets compar'd with the Earth. And laſtly, what Accounts ſoever have been given by others of the preſent Form and Irregularities of the Earth, are examin'd and ſhew'd inſufficient. And this ſeemeth to be all that is requiſite upon this Subject.

CHAP. IV.

That the Earth and Mankind had an Original, and were not from Eternity: Prov'd againſt Ariſtotle. *The firſt Propoſition of our Theory laid down,* viz. *That the Antediluvian Earth was of a different Form and Conſtruction from the preſent. This is prov'd by Divine Authority, and from the Nature and Form of the Chaos, out of which the Earth was made.*

WE are now to enquire into the Original of the Earth, and in what Form it was built at firſt, that we may lay our Foundation for the following Theory deep and ſure. It hath been the general Opinion and Conſent of the Learned of all Nations, that the Earth aroſe from a Chaos. This is atteſted by Hiſtory, both Sacred and Profane; only *Ariſtotle*, whom ſo great a part of the Chriſtian World have made their Oracle or Idol, hath maintain'd the Eternity of the Earth, and the Eternity of Mankind; that the Earth and the World were from Everlaſting, and in that very Form they are in now, with Men and Women and all living Creatures, Trees and Fruit, Metals and Minerals, and whatſoever is of natural Production. We ſay all theſe things aroſe and had their firſt Exiſtence or Production not ſix thouſand Years ago: He ſaith, they have ſubſiſted thus for ever, thro' an infinite Series of paſt Generations, and ſhall continue as long, without firſt or laſt: And if ſo, there was neither Chaos, nor any other beginning to the Earth. This takes away the Subject of our Diſcourſe, and therefore we muſt firſt remove this Stone out of the Way, and prove that the Earth had an Original, and that from a Chaos, before we ſhew how it aroſe from a Chaos, and what was the firſt habitable Form that it ſettled into.

We are aſſur'd by Divine Authority, that the Earth and Mankind had a beginning; *Moſes* ſaith, *In the beginning God made the Heavens and the Earth.* Speaking it as of a certain Period or Term from whence he counts the Age of the World. And the ſame *Moſes* tells us, that *Adam* was the firſt Man, and *Eve* the firſt Woman, from whom ſprung the Race of Mankind; and this within the Compaſs of ſix thouſand Years. We are alſo aſſured from the Prophets, and our Chriſtian Records, that the World ſhall have an End, and that by a general Conflagration, when all Mankind ſhall be deſtroy'd, with the Form and all the Furniture of the Earth. And as this proves the ſecond part of *Ariſtotle*'s Doctrine to be falſe immediately, ſo doth it the firſt, by a true Conſequence; for what hath an end had a beginning, what is not Immortal, was not Eternal; That which exiſts by the ſtrength of its own Nature at firſt, the ſame Nature will enable to exiſt for ever; and indeed what exiſts of it ſelf, exiſts neceſſarily; and what exiſts neceſſarily, exiſts eternally.

Having this infallible Aſſurance of the Origin of the Earth and of Mankind from Scripture, we proceed to refute the ſame Doctrine of *Ariſtotle's* by natural Reaſon. And we will firſt conſider the Form of the Earth, and then Mankind; and ſhew from plain Evidence and Obſervation, neither of them to have been Eternal. 'Tis natural to the Mind of Man to conſider that which is compound, as having been once more ſimple; whether that Compoſition be a Mixture of many Ingredients, as moſt Terreſtrial Bodies are, or whether it be Organical; but eſpecially if it be Organical: For a thing that conſiſts of a multitude of Pieces aptly join'd, we cannot but conceive to have had thoſe Pieces, at one time or another, put together. 'Twere hard to conceive an eternal Watch, whoſe Pieces were never ſeparate one from another, nor ever in any other Form than that of a Watch. Or an eternal Houſe, whoſe Materials were never aſunder, but always in the form of an Houſe. And 'tis as hard to conceive an *Eternal Earth*, or an *Eternal World*: Theſe are made up of more various Subſtances, more Ingredients, and into a far greater Compoſition; and the living part of the World, Plants and Animals, have much more variety of parts and multifarious Conſtruction, than any Houſe, or any other artificial Thing: So that we are led as much by Nature and Neceſſity to conceive this great Machine of the World, or of the Earth, to have been once in a ſtate of greater Simplicity than now it is, as to conceive a Watch, an Houſe, or any other Structure, to have been once in its firſt and ſimple Materials. This I ſpeak without Reference to immediate Creation, for *Ariſtotle* did not own any ſuch thing, and therefore the Argument ſtands good againſt him, upon thoſe Grounds and Notions that he goes; yet I gueſs what Anſwer would be made by him or his Followers to this Argumentation; They would ſay there is not the ſame Reaſon for Natural Things, as for Artificial, though equally compounded. Artificial things could not be from Eternity, becauſe they ſuppoſe Man, by whoſe Art they were made, pre-exiſtent to them; the Workman muſt be before the Work, and whatſoever hath any thing before it, is not Eternal. But may not the ſame thing be ſaid of Natural things? Do not moſt of them require the Action of the Sun, and the Influence of the Heavens for their Production, and longer Preparations than any Artificial things do? Some Years or Ages would be neceſſary for the Concoction and Maturation of Metals and Minerals; Stones themſelves, at leaſt ſome ſorts of them, were once Liquors or fluid Maſſes; and all vegetable Productions require the Heat of the Sun, to prediſpoſe and excite the Earth, and the Seeds. Nay, according to *Ariſtotle*, 'tis not Man by himſelf that begets a Man, but the Sun is his Coadjutor. You ſee then 'twas as neceſſary that the Sun, that great Workman of Nature, ſhould pre-exiſt to Natural things, produc'd in or upon the Earth, as that Man ſhould pre-exiſt to Artificial. So that the Earth under that Form and Conſtitution it now hath, could no more be Eternal, than a Statue or Temple, or any work of Art.

Beſides, that Form, which the Earth is under at preſent, is in ſome ſort preter-natural, like a Statue made and broken again; and ſo hath ſtill the leſs Appearance or Pretence of being Eternal. If the Elements had lain in that Order to one another, as *Ariſtotle* hath diſpos'd them, and as ſeems to be their firſt Diſpoſition; the Earth altogether in a Maſs in the middle, or towards the Centre; then the Water in a Spherical Maſs about that; the Air above the Water, and then a Sphere of Fire, as he fancied, in the higheſt Circle of the Air: If they had lain, I ſay, in this Poſture, there might have been ſome Pretence that they had been Eternally ſo; becauſe that might ſeem to be their Original Poſture, in which Nature had firſt plac'd them. But the Form and Poſture we find them in at preſent is very different, and according to his Doctrine muſt be look'd upon as unnatural and violent; and no violent State, by his own Maxim, can be perpetual, or can have been ſo.

But there is ſtill a more preſſing Conſideration againſt this Opinion. If this preſent State and Form of the Earth had been from Eternity, it would have long e'er this deſtroy'd it ſelf, and chang'd it ſelf: The Mountains ſinking by degrees into the Valleys, and into the Sea, and the Waters riſing above the Earth; which Form it would certainly have come into ſooner or later, and in it continu'd drowned and uninhabitable, for all ſucceeding Generations. For 'tis certain, that the Mountains and higher parts of the Earth grow leſſer and leſſer from Age to Age; and that from many Cauſes, ſometimes the Roots of them are weaken'd and eaten by Subterraneous Fires, and ſometimes they are torn and tumbled down by Earthquakes, and fall into thoſe Caverns that are under them; and tho' thoſe violent Cauſes are not conſtant, or univerſal, yet if the Earth had ſtood from Eternity, there is not a Mountain would have eſcap'd this Fate in one Age or other. The Courſe of theſe Exhalations or Fires would have reach'd them all ſooner or later, if through infinite Ages they had ſtood expos'd to them. But there are alſo other Cauſes that conſume them inſenſibly, and make them ſink by degrees; and thoſe are chiefly the Winds, Rains, and Storms, and Heat of the Sun without; and within, the ſoaking of Water and Springs, with Streams and Currents in their Veins and Crannies. Theſe two ſorts of Cauſes would certainly reduce all the Mountains of the Earth, in tract of time, to Equality; or rather lay them all under Water: For whatſoever moulders or is waſht away from them, is carried down into the lower Grounds, and into the Sea, and nothing is ever brought back again by any Circulation: Their Loſſes are not repair'd, nor any proportionable Recruits made from any other parts of Nature. So as the higher parts of the Earth being continually ſpending, and the lower continually gaining, they muſt of neceſſity at length come to an Equality; and the Waters that lie in the lower parts and in the Channels, thoſe Channels and Valleys being fill'd up with Earth, would be thruſt out and riſe every where upon the Surface of the Earth; which new Poſt when they had once ſeiz'd on, they would never quit it, nor would any thing be able to diſpoſſeſs them; for 'tis their natural Place and Situation which they always tend to, and from which there is no Progreſs nor Regreſs in a Courſe of Nature. So that the Earth would have been, both now, and from innumerable Generations before this, all under Water and uninhabitable; if it had ſtood from Everlaſting, and this Form of it had been its firſt original Form.

Nor can he doubt of this Argumentation, that conſiders the Coherence of it, and will allow time enough for the effect. I do not ſay the Earth would be reduc'd to this uninhabitable Form in ten thouſand Years time, though I believe it would: but take twenty, if you pleaſe, take an hundred thouſand, take a million, 'tis all one, for you may take the

one as eaſily as the other out of Eternity; an
they make both equally againſt their Supp
ſition. Nor is it any matter how little yo
ſuppoſe the Mountains to decreaſe, 'tis b
taking more time, and the ſame effect ſtill fo
lows. Let them but waſte as much as a gra
of Muſtardſeed every day, or a Foot in an Ag
this would be more than enough in ten tho
ſand Ages to conſume the talleſt Mounta
upon Earth. The Air alone, and the litt
drops of Rain have defac'd the ſtrongeſt a
the proudeſt Monuments of the *Greeks* a
Romans; and allow them but time enoug
and they will of themſelves beat down t
Rocks into the Sea, and the Hills into t
Valleys. But if we add to theſe all thoſe
ther forementioned Cauſes that work wi
more Violence, and the weight of the Mou
tains themſelves, which, upon any occaſion
fer'd, is ready to ſink them lower, we ſh
ſhorten the time, and make the effect mo
ſure.

We need add no more here in particul
againſt this *Ariſtotelian* Doctrine, that mak
the preſent Form of the Earth to have be
from Eternity; for the Truth is, this who
Book is one continued Argument againſt th
Opinion; ſhewing that it hath *de facto* chang
its Form; both in that we have prov'd th
it was not capable of an univerſal Deluge
this Form, and conſequently was once und
another; and alſo in that we ſhall prove
large hereafter throughout the Third a
Fourth Sections, that it hath been broken a

diſſolv

diſſolv'd. We might alſo add one Conſideration more, that if it had ſtood always under this Form, it would have been under Fire, if it had not been under Water; and the Conflagration, which it is to undergo, would have overtaken it long e'er this. For St. *Peter* ſaith, the Heavens and the Earth that are now, as oppoſ'd to the Ante-diluvian, and conſidered in their preſent Form and Conſtitution, are fitted to be conſumed by Fire. And whoſoever underſtands the Progreſs and Revolutions of Nature, will ſee that neither the preſent Form of the Earth, nor its firſt Form, were permanent and immutable Forms, but tranſient and temporary by their own Frame and Conſtitution; which the Author of Nature, after certain Periods of time, had deſign'd for Change and for Deſtruction.

Thus much for the body of the Earth, that it could not have been from Eternity, as *Ariſtotle* pretended, in the Form it hath. Now let's conſider the Origination of Mankind; and that we ſhall find could much leſs be Eternal than the other; for whatſoever deſtroy'd the Form of the Earth, would alſo deſtroy Mankind; and beſides, there are many particular Marks and Arguments, that the Generations of Men have not been from Everlaſting. All Hiſtory, and all Monuments of Antiquity of what kind ſoever, are but of a few thouſand of Years date; we have ſtill the Memory of the golden Age, of the firſt ſtate of Nature, and how Mortals liv'd then in Innocency and Simplicity. The Invention of Arts, even thoſe that are neceſſary or uſeful to Humane Life, hath been within the Knowledge of Men: How imperfect was the Geography of the Ancients, how imperfect their Knowledge of the Earth, how imperfect their Navigation? Can we imagine, if there had been Men from Everlaſting, a Sea as now, and all Materials for Shipping as much as we have, that Men could have been ſo ignorant, both of the Land and of the Sea, as 'tis manifeſt they have been till of late Ages? They had very different Fancies concerning the Figure of the Earth. They knew no Land beyond our Continent, and that very imperfectly too; and the Torrid Zone they thought utterly uninhabitable. We think it ſtrange, taking that ſhort date of the World, which we give it, that Men ſhould not have made more Progreſs in the Knowledge of theſe things; but how impoſſible is it then, if you ſuppoſe them to have been from Everlaſting? They had the ſame Wit and Paſſions that we have, the ſame Motives that we have, can we then imagine, that neither the Ambition of Princes, nor Intereſt or Gain in private Perſons, nor Curioſity and the Deſire of Knowledge, nor the Glory of Diſcoveries, nor any other Paſſion or Conſideration could ever move them in that endleſs time, to try their Fortunes upon the Sea, and know ſomething more of the World they inhabited? Though you ſhould ſuppoſe them generally ſtupid, which there is no reaſon to do, yet in a Courſe of infinite Generations, there would be ſome great Genii, ſome extraordinary Perſons that would attempt Things above the reſt. We have done more within the compaſs of our little World, which we can but count (as to this) from the general Deluge, than thoſe Eternal Men had done in their innumerable Ages foregoing.

You will ſay it may be, they had not the Advantages and Opportunities for Navigation as we have, and for Diſcoveries; becauſe the uſe of the Loadſtone, and the Mariners Needle was not then known. But that's the wonder, that either that Invention, or any other ſhould not be brought to light till t'other Day, if the World had ſtood from Eternity. I ſay this or any other practical Invention; for ſuch things, when they are once found out and known, are not eaſily loſt again, becauſe they are of daily Uſe. And 'tis in moſt other practical Arts as in Navigation, we generally know their Original and Hiſtory: who the Inventors, and by what degrees improv'd, and how few of them brought to any Perfection till of late Ages. All the Artificial and Mechanical World is, in a manner, new; and what you may call the *Civil World* too is in a great meaſure ſo. What relates to Government, and Laws; to Wars and Diſcipline; we can trace theſe things to their Origin, or very near it. The Uſe of Money and of Coins, nay the Uſe of the very Elements; for they tell us of the firſt Invention of Fire by *Prometheus*, and the employing of Wind or Water to turn the Mills and grind their Corn was ſcarce known before the *Romans*, *Plin.* *l.* 7. *c.* 56. And that we may think nothing Eternal here, they tell us the Ages and Genealogies of their very Gods. The meaſures of Time for the common uſes of Life, the dividing it into Hours, with the Inſtruments for thoſe Purpoſes, are not of an unknown Date: Even the Arts for preparing Food and Cloathing, Medicines and Medicaments, Building, Civil and Military, Letters and Writing, which are the Foundations of the World Civil: Theſe, with all their Retinue of leſſer Arts and Trades that belong to them, Hiſtory and Tradition tell us, when they had their beginning, or were very imperfect; and how many of their Inventors and Inventreſſes were deify'd. The World hath not ſtood ſo long but we can ſtill run it up to thoſe Artleſs Ages, when Mortals liv'd by plain Nature; when there was but one Trade in the World, one Calling, to look to their Flocks; and afterwards to Till the Ground, when Nature grew leſs liberal: And may we not reaſonably think this the beginning of Mankind, or very near it? If Man be a Creature both naturally ſagacious to find out its own Conveniencies, and naturally ſociable and inclin'd to live in a Community, a little time would make them find out and furniſh themſelves with what was neceſſary in theſe two Kinds, for the Conveniencies of ſingle Life, and the Conveniencies of Societies; they would not have liv'd infinite Ages unprovided of them. If you ſay *Neceſſity* is the Mother of Arts and Inventions, and there was no Neceſſity before, and therefore theſe Things were ſo ſlowly ly invented; this is a good Anſwer upon our Suppoſition, that the World began but ſome Ages before theſe were found out, and was abundant with all Things at firſt; and Men not very numerous, and therefore were not put ſo much to the uſe of their Wits, to find out Ways for living commodiouſly. But this is no Anſwer upon their Suppoſition; for if the World was Eternal and Men too, there were no firſt Ages, no new and freſh Earth; Men were never leſs numerous, nor the Earth more fruitful; and conſequently there was never leſs Neceſſity at any time than is now. This alſo brings to mind another Argument againſt this Opinion (*viz.*) from the gradual Increaſe of Mankind. 'Tis certain the World was not ſo populous one or two Thouſand Years ſince, as it is now, ſeeing 'tis obſerv'd in particular Nations, that within the ſpace of two or three Hundred Years, notwithſtanding all Caſualties, the number of Men doubles. If then the Earth had ſtood from Everlaſting, it had been overſtockt long e'er this, and would not have been capable to contain its Inhabitants many Ages and Millions of Ages ago. Whereas we find the Earth is not yet ſufficiently Inhabited, and there is ſtill room for ſome Millions. And we muſt not fly to univerſal Deluges and Conflagrations to deſtroy Mankind; for beſides that the Earth was not capable of a Deluge in this preſent Form, nor would have been in this Form after a Conflagration, *Ariſtotle* doth not admit of theſe univerſal Changes, nor any that hold the Form of the Earth to be Eternal. But to return to our Arts and Inventions.

We have ſpoken of practical Arts and Inventions uſeful in humane Life; then for Theoretical Learning and Sciences, there is nothing yet finiſh'd or compleat in theſe; and what is known hath been chiefly the Production of latter Ages. How little hath been diſcovered till of late, either of our own Bodies, or of the Body of the Earth, and of the Functions or Motions of Nature in either? What more obvious, one would think, than the Circulation of the Blood? What can more excite our Curioſity than the flowing and ebbing of the Sea? Than the Nature of Metals and Minerals? Theſe are either yet unknown, or were ſo at leaſt till this laſt Age; which ſeems to me to have made a greater Progreſs than all Ages before put together, ſince the beginning of the World. How unlikely is it then that theſe Ages were Eternal? That the Eternal Studies of our Forefathers could not effect ſo much as a few Years have done of late? And the whole Maſs of Knowledge in this Earth doth not ſeem to be ſo great, but that a few Ages more, with two or three happy Genius's in them, may bring to light all that we are capable to underſtand in this ſtate of Mortality.

To theſe Arguments concerning the Novelty of the Earth, and the Origin of Mankind, I know there are ſome ſhuffling Excuſes made, but they can have little effect upon thoſe Inſtances we have choſen. And I would ask thoſe Eternaliſts one fair Queſtion, What Mark is there that they could expect or deſire of the Novelty of a World, that is not found in this? Or what Mark is there of Eternity that is found in this? If then their Opinion be without any poſitive Argument, and againſt all Appearances in Nature, it may be juſtly rejected as unreaſonable upon all Accounts. 'Tis not the bold aſſerting of a Thing that makes it true, or that makes it credible againſt Evidence. If one ſhould aſſert that ſuch an one had liv'd from all Eternity, and I could bring Witneſſes that knew him a Sucking Child, and others that remembred him a School-boy, I think it would be a fair Proof, that the Man was not Eternal. So if there be Evidence, either in Reaſon or Hiſtory, that it is not very many Ages ſince Nature was in her Minority, as appears by all thoſe Inſtances we have given above; ſome whereof trace her down to her very Infancy: This, I think, may be taken for a good Proof that ſhe is not Eternal. And I do not doubt, but if the Hiſtory of the World was writ Philoſophically, giving an Account of the ſeveral States of Mankind in ſeveral Ages, and by what Steps or Degrees they came from their firſt Rudeneſs or Simplicity to that Order of Things, both Intellectual and Civil, which the World is advanc'd to at preſent, That alone would be a full Conviction, that the Earth and Mankind had a beginning. As the Story of *Rome*, how it roſe from a mean Original, by what degrees it increas'd, and how it chang'd its Form and Government till it came to its Greatneſs, doth ſatisfy us very well, that the *Roman* Empire was not Eternal.

Thus much concerning the Temporal Original of the Earth. We are now to conſider the manner of it, and to ſhew how it roſe from a Chaos. I do not remember that any of the Ancients that acknowledge the Earth to have had an Original, did deny that Original to have been from a Chaos. We are aſſur'd of both from the Authority of *Moſes*, who ſaith, that in the beginning the Earth was *Tohu Bohu*, without Form and Void; a fluid, dark, confus'd Maſs, without Diſtinction of Elements; and made up of all Variety of Parts, but without Order, or any determinate Form; which is the true Deſcription of a Chaos: And ſo it is underſtood by the general Conſent of Interpreters, both Hebrew and Chriſtian. We need not therefore ſpend any time here to prove, that the Origin of the Earth was from a Chaos, ſeeing that is agreed on by all that give it any Origin. But we will proceed immediately to examine into what Form it firſt roſe when it came out of that Chaos; or what was the primæval Form of the Earth, that continued till the Deluge, and how the Deluge depended upon it, and upon its Diſſolution.

And that we may proceed in this Enquiry by ſuch eaſy ſteps as any one may readily follow, we will divide it into Three Propoſitions, whereof the firſt is this in general; *that the*

Form of the Antediluvian Earth, or of the Earth that roſe firſt from the Chaos, was different from the Form of the preſent Earth. I ſay *different in general*, without ſpecifying yet what its particular Form was, which ſhall be expreſt in the following Propoſition.

This firſt Propoſition we have in effect prov'd in the Second Chapter; where we have ſhewn, that if the Earth had been always in this Form, it would not have been capable of a Deluge; ſeeing that could not have been effected without ſuch an infinite Maſs of Water as could neither be brought upon the Earth, nor afterward any way removed from it. But we will not content our ſelves with that Proof only, but will prove it alſo from the Nature of the Chaos, and the manifeſt Conſequences of it. And becauſe this is a leading Propoſition, we think it not improper to prove it alſo from Divine Authority, there being a pregnant Paſſage to this Purpoſe in the Writings of St. *Peter*. Where treating of this very Subject, the Deluge, he manifeſtly puts a difference between the Antediluvian Earth and the preſent Earth, as to their Form and Conſtitution. The Diſcourſe is in the Second Epiſtle of St. *Peter*, the third Chapter, where certain Deiſts, as they ſeem to have been, laught at the Prophecy of the Day of Judgment, and of the Conflagration of the World, uſing this Argument againſt it, *That ſince the Fathers fell aſleep, all things have continued as they were from the beginning.* All External Nature hath continued the ſame without any remarkable Change or Alteration, and why ſhould we believe (ſay they) there will be any? What Appearance or what Foundation is there of ſuch a Revolution, that all Nature will be diſſolv'd, and the Heavens and the Earth conſum'd with Fire, as your Prophecies pretend? So from the Permanency and Immutability of Nature hitherto, they argu'd its Permanency and Immutability for the future. To this the *Apoſtle* anſwers, that they are willing to forget that the Heavens and the Earth of old had a particular Form and Conſtitution as to Water, by reaſon whereof the World that then was, periſht by a Deluge. And the Heavens and the Earth that are now, or ſince the Deluge, have a particular Conſtitution in reference to Fire, by reaſon whereof they are expos'd to another ſort of Deſtruction or Diſſolution, namely by Fire, or by an univerſal Conflagration. The Words of the Apoſtle, *Chap.* 3. *verſe* 5, 6, 7. are theſe; *For this they are willingly ignorant of, that by the Word of God the Heavens were of old, and the Earth, conſiſting of Water, and by Water*; or (as we render it) *ſtanding out of the Water, and in the Water: whereby the World that then was, being overflow'd with Water, periſht. But the Heavens and the Earth that are now, by the ſame Word are kept in ſtore, reſerv'd unto Fire againſt the Day of Judgment.* We ſhall have occaſion, it may be, hereafter to give a full Illuſtration of theſe Words; but at preſent we ſhall only take notice of this in general, that the Apoſtle here doth plainly intimate ſome difference that was between the old World and the preſent World, in their Form and Conſtitution; or betwixt the Antediluvian and the preſent Earth, by reaſon of which difference, that was ſubject to periſh by a Deluge, as this is ſubject to periſh by Conflagration. And as this is the general Air and Importance of this Diſcourſe of the Apoſtle's, which every one at firſt ſight would diſcover; ſo we may in ſeveral particular ways prove from it our firſt Propoſition, which now we muſt return to; (*viz.*) *That the Form and Conſtitution of the Antediluvian Earth was different from that of the preſent Earth.* This may be infer'd from the Apoſtle's Diſcourſe, firſt, becauſe he makes an oppoſition betwixt theſe two Earths, or theſe two natural Worlds; and that not only in reſpect of their Fate, the one periſhing by Water, as the other will periſh by Fire, but alſo in reſpect of their different Diſpoſition and Conſtitution leading to this different Fate; for otherwiſe his *fifth verſe* is ſuperfluous, and his Inference in the *ſixth* ungrounded; you ſee he premiſeth in the *fifth verſe* as the ground of his Diſcourſe, what the Conſtitution of the Antediluvian Heavens and Earth was, and then infers from it in the *ſixth verſe*, that they therefore periſht in a Deluge of Water. Now if they had been the ſame with ours, there had neither been any ground for making an Oppoſition betwixt them, nor any ground of making a contrary Inference as to their Fate. Beſides, in that he implies that the Conſtitution of the Antediluvian Earth was ſuch, as made it ſubject to a Deluge; he ſhews that it was different from the Conſtitution of the preſent Earth; for the Form of that is ſuch, as makes it rather incapable of a Deluge, as we have ſhewn in the ſecond Chapter. Then we are to obſerve further, that when he ſaith (*verſe 6.*) that the firſt World periſh'd in a Deluge, or was deſtroy'd by it; this is not to be underſtood of the Animate World only, Men and living Creatures, but of the Natural World, and the Frame of it; for he had deſcrib'd it before by the Heavens and the Earth, which make the Natural World. And the Objection of the Atheiſts, or Deiſts rather, which he was to anſwer, proceeded upon the Natural World. And laſtly, this periſhing of the World in a Deluge, is ſet againſt, or compar'd with the periſhing of the World in the Conflagration, when the Frame of Nature will be diſſolv'd. We muſt therefore, according to the Tenor of the Apoſtle's arguing, ſuppoſe, that the Natural World was deſtroy'd or periſh'd in the Deluge; and ſeeing it did not periſh as to Matter and Subſtance, it muſt be as to the Form, Frame and Compoſition of it, that it periſh'd; and conſequently, the preſent Earth is of another Form and Frame from what it had before the Deluge; which was the thing to be proved.

Laſtly, Let us conſider what it is the Apoſtle tells theſe Scoffers that they were ignorant of: Not that there was a Deluge, they could not be ignorant of that; nor doth he tell them that they were. But he tells them that they were ignorant that the Heavens and the Earth of old were ſo and ſo conſtituted, after a different manner than they are now, and that the State of Nature was chang'd at the Deluge; if they had known or attended to this, they had made no ſuch Objection, nor us'd any ſuch Argument as they did againſt the future Conflagration of the World. They pretended that there had been no Change in Nature ſince the beginning, and the Apoſtle in anſwer tells them, that they are willingly ignorant of the firſt Conſtitution of the Heavens, and the Earth, and of that Change and Diſſolution that happen'd to them in the Deluge; and how the preſent Heavens and Earth have another Conſtitution, whereby in like manner they are expos'd, in God's due time, to be conſum'd or diſſolv'd by Fire. This is the plain, eaſy and natural Import of the Apoſtle's Diſcourſe; thus all the parts of it are coherent, and the Senſe genuine and apposite, and this is a full Confirmation of our firſt and general Aſſertion, That *the Antediluvian Earth was of another Form from the preſent Earth.* This hath been obſerv'd formerly by ſome of the Ancients from this Text, but that it hath not been generally obſerv'd, was partly becauſe they had no Theory to back ſuch an Interpretation, and make it intelligible; and partly becauſe they did not obſerve, that the Apoſtle's Diſcourſe here was an Argumentation, and not a bare Affirmation, or ſimple Contradiction to thoſe that rais'd the Scruple; 'tis an Anſwer upon a Ground taken, he premiſeth, and then infers, in the *fifth* and *ſixth* Verſes, concerning the Deluge; and in the *ſeventh*, concerning the Conflagration. And when I had diſcover'd in my Thoughts from the Conſideration of the Deluge, and other natural Reaſons, that the Earth was certainly once in another Form, it was a great Aſſurance and Confirmation to me, when I reflected on this place of St. *Peter*'s; which ſeems to be ſo much directed and intended for the ſame Purpoſe, or to teach us the ſame Concluſion, that though I deſign'd chiefly a Philoſophical Theory of theſe things, yet I ſhould not have thought we had been juſt to Providence, if we had neglected to take Notice of this Paſſage and Sacred Evidence; which ſeems to have been left us on purpoſe to excite our Enquiries, and ſtrengthen our Reaſonings, concerning the firſt State of things. Thus much from Divine Authority: We proceed now to prove the ſame Propoſition from Reaſon and Philoſophy, and the Contemplation of the Chaos, from whence the firſt Earth aroſe.

We need not upon this Occaſion make a particular Deſcription of the Chaos, but only conſider it as a fluid Maſs, or a Maſs of all ſorts of little Parts and Particles of Matter mixt together, and floating in Confuſion, one with another. 'Tis impoſſible that the Surface of this Maſs ſhould be of ſuch a Form and Figure, as the Surface of our preſent Earth is. Or that any Concretion or conſiſtent State which this Maſs could flow into immediately, or firſt ſettle in, could be of ſuch a

Form and Figure as our preſent Earth. The firſt of theſe Aſſertions is of eaſy proof; for a fluid Body, we know, whether it be Water or any other Liquor, always caſts it ſelf into a ſmooth and ſpherical Surface; and if any Parts, by Chance, or by ſome Agitation, become higher than the reſt, they do not continue ſo, but glide down again every way into the lower Places, till they all come to make a Surface of the ſame height, and of the ſame diſtance every where from the Center of their Gravity. A Mountain of Water is a thing impoſſible in Nature, and where there are no Mountains there are no Valleys. So alſo a Den or Cave within the Water, that hath no Walls but the liquid Element, is a Structure unknown to Art or Nature; all things there muſt be full within, and even and level without, unleſs ſome External Force keep them by Violence in another Poſture. But is this the Form of our Earth, which is neither regularly made within nor without? The Surface and exterior Parts are broken into all ſorts of Inequalities, Hills and Dales, Mountains and Valleys; and the plainer Tracks of it lie generally inclin'd or bending one way or other, ſometimes upon an eaſy Deſcent, and other times with a more ſenſible and uneaſy Steepneſs; and though the great Mountains of the Earth were taken all away, the remaining parts would be more unequal than the roughest Sea; whereas the Face of the Earth ſhould reſemble the Face of the calmeſt Sea, if it was ſtill in the Form of its firſt Maſs.

But what ſhall we ſay then to the huge Mountains of the Earth, which lie ſometimes in Lumps or Cluſters heapt up by one another, ſometimes extended in long Ridges or Chains for many hundred Miles in length? And 'tis remarkable, that in every Continent, and in every ancient and original Iſland, there is either ſuch a Cluſter, or ſuch a Chain of Mountains. And can there be any more palpable Demonſtrations than theſe are, that the Surface of the Earth is not in the ſame Form that the Surface of the Chaos was, or that any fluid Maſs can ſtand or hold it ſelf in?

Then for the Form of the Earth within or under its Surface, 'tis no leſs impoſſible for the Chaos to imitate that; for 'tis full of Cavities and empty Places, of Dens and broken Holes, whereof ſome are open to the Air, and others cover'd and encloſed wholly within the Ground. Theſe are both of them unimitable in any liquid Subſtance, whoſe Parts will neceſſarily flow together into one continued Maſs, and cannot be divided into Apartments and ſeparate Rooms, nor have Vaults or Caverns made within it; the Walls would ſink, and the Roof fall in: For liquid Bodies have nothing to ſuſtain their Parts, nor any thing to cement them; they are all looſe and incoherent, and in a perpetual Flux: Even an heap of Sand or fine Powder will ſuffer no Hollowneſs within them, though they be dry Subſtances, and though the Parts of them being rough, will hang together a little, and ſtand a little upon an heap; but the Parts of

Liquors being glib, and continually in motion, they fall off from one another, which way ſoever Gravity inclines them, and can neither have any Hills or Eminencies on their Surface, nor any Hollowneſs within their Subſtance.

You will acknowledge, it may be, that this is true, and that a liquid Maſs or Chaos, while it was liquid, was incapable of either the outward or inward Form of the Earth; but when it came to a Concretion, to a ſtate of Conſiſtency and Firmneſs, then it might go, you'll ſay, into any Form. No, not in its firſt Concretion, nor in its firſt State of Conſiſtence; for that would be of the ſame Form that the Surface of it was when it was liquid, as Water when it congeals, the Surface of the Ice is ſmooth and level, as the Surface of the Water was before; ſo Metals, or any other Subſtances melted, or Liquors that of themſelves grow ſtiff and harden, always ſettle into the ſame Form which they had when they were laſt liquid, and are always ſolid within, and ſmooth without, unleſs they be caſt in a Mould, that hinders the Motion and Flux of the Parts. So that the firſt concrete State or conſiſtent Surface of the Chaos, muſt be of the ſame Form or Figure with the laſt liquid State it was in; for that is the Mould, as it were, upon which it is caſt; as the Shell of an Egg is of a like Form with the Surface of the Liquor it lies upon. And therefore by Analogy with all other Liquors and Concretions, the Form of the Chaos, whether liquid or concrete, could not be the ſame with that of the preſent Earth, or like it: And conſequently, that Form of the firſt or primigenial Earth which roſe immediately out of the Chaos, was not the ſame, nor like to that of the preſent Earth. Which was the firſt and preparatory Propoſition we laid down to be prov'd. And this being prov'd by the Authority both of our Reaſon and our Religion, we will now proceed to the ſecond which is more particular.

CHAP. V.

The Second Propoſition is laid down, viz. *That* the Face of the Earth before the Deluge was ſmooth, regular and uniform; without Mountains, and without a Sea. *The Chaos out of which the World roſe is fully examin'd, and all its Motions obſerv'd, and by what ſteps it wrought it ſelf into an habitable World. Some things in Antiquity relating to the firſt State of the Earth are interpreted, and ſome things in the Sacred Writings. The Divine Art and Geometry in the Conſtruction of the firſt Earth is obſerv'd and celebrated.*

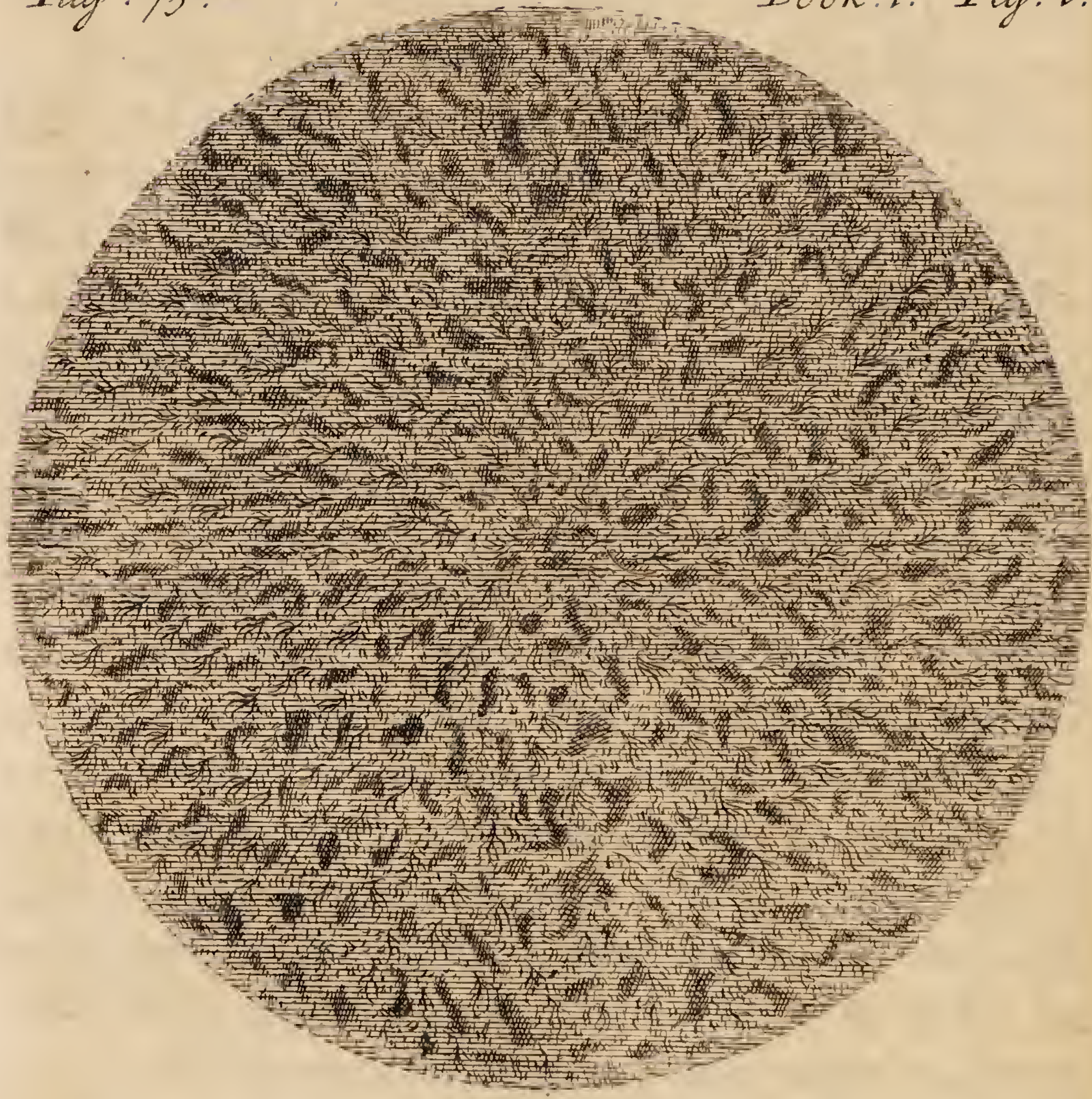
WE have ſeen it prov'd, in the foregoing Chapter, That the Form of the firſt or Antediluvian Earth was not the ſame, nor like the Form of the preſent Earth. This is our firſt Diſcoveryat a diſtance, but 'tis only general and negative, tells us what the Form of that Earth was not, but tells us not expreſly what it was; that muſt be our next Enquiry, and advancing one ſtep further in our Theory, we lay down this ſecond Propoſition: *That the Face of the Earth before the Deluge was ſmooth, regular and uniform; without Mountains, and without a Sea.* This is a bold ſtep, and carries us into another World, which we have never ſeen, nor ever yet heard any relation of: and a World, it ſeems, of very different Scenes and Proſpects from ours, or from any thing we have yet known. An Earth without a Sea, and plain as the *Elyſian* Fields; if you travel it all over, you will not meet with a Mountain or a Rock, yet well provided of all requiſite things for an habitable World; and the ſame indeed with the Earth we ſtill inhabit, only under another Form. And this is the great thing that now comes into debate, the great Paradox which we offer to be examin'd, and which we affirm, That the Earth, in its firſt Riſe and Formation from a Chaos, was of the Form here deſcrib'd, and ſo continu'd for many hundreds of Years.

To examine and prove this, we muſt return to the beginning of the World, and to that Chaos out of which the Earth and all Sublunary things aroſe: 'Tis the Motions and Progreſs of this which we muſt now conſider, and what Form it ſettled into when it firſt became an habitable World.

Neither is it perhaps ſuch an intricate thing as we imagine at firſt ſight, to trace a Chaos into an habitable World; at leaſt there is a particular Pleaſure to ſee things in their Origin, and by what degrees and ſucceſſive

Changes they riſe into that Order and State we ſee them in afterwards, when compleated. I am ſure, if ever we would view the Paths of Divine Wiſdom, in the Works and in the Conduct of Nature, we muſt not only conſider how things are, but how they came to be ſo. 'Tis pleaſant to look upon a Tree in the Summer, cover'd with its green Leaves, deckt with Bloſſoms, or laden with Fruit, and caſting a pleaſing ſhade under its ſpreading Boughs; but to conſider how this Tree, with all its Furniture, ſprang from a little Seed; how Nature ſhap'd it, and fed it, in its Infancy and Growth; added new Parts, and ſtill advanc'd it by little and little, till it came to this Greatneſs and Perfection: This, methinks, is another ſort of Pleaſure, more rational, leſs common, and which is properly the Contemplation of Divine Wiſdom in the Works of Nature. So to view this Earth, and this Sublunary World, as it is now compleat, diſtinguiſht into the ſeveral Orders of Bodies of which it conſiſts, every one perfect and admirable in its kind; this is truly delightful, and a very good Entertainment of the Mind; But to ſee all theſe in their firſt Seeds, as I may ſo ſay; to take in pieces this Frame of Nature, and melt it down into its firſt Principles; and then to obſerve how the Divine Wiſdom wrought all theſe things out of Confuſion into Order, and out of Simplicity into that beautiful Compoſition we now ſee them in; this, methinks, is another kind of Joy, which pierceth the Mind more deep, and is more ſatisfactory. And to give our ſelves and others this Satisfaction, we

Pag. 75. Book. 1. Fig. 1.

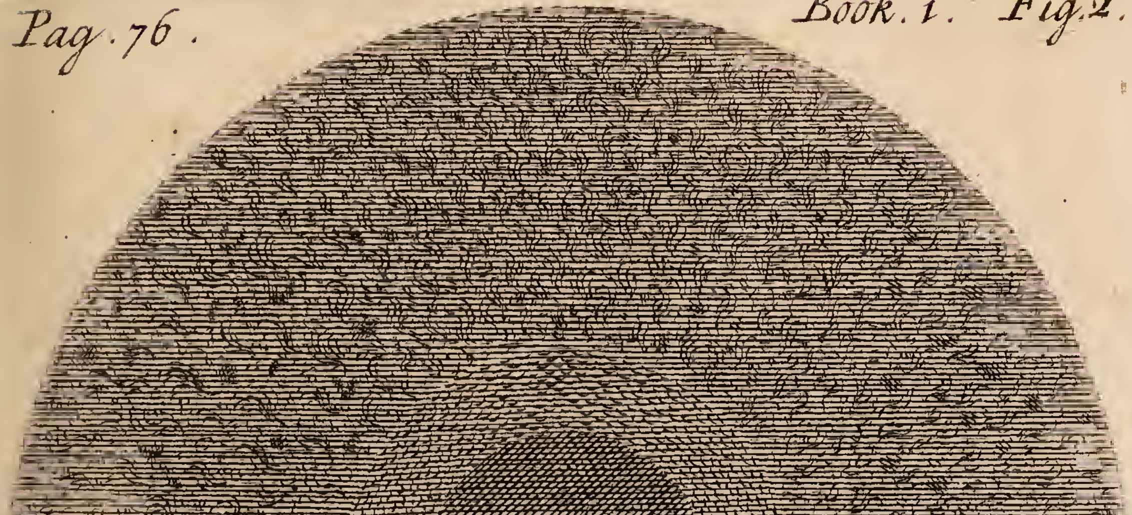


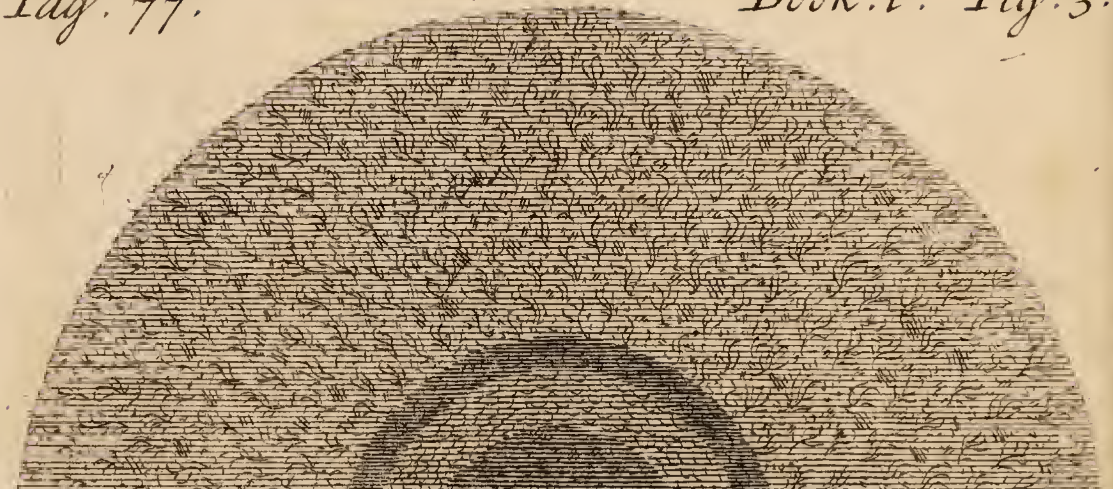
will firſt make a ſhort Repreſentation of the Chaos, and then ſhew, how, according to Laws eſtabliſht in Nature by the Divine Power and Wiſdom, it was wrought by degrees from one Form into another, till it ſettled at length into an habitable Earth; and that of ſuch a Frame and Structure, as we have deſcrib'd in this ſecond Propoſition.

By the Chaos I underſtand the Matter of the Earth and Heavens, without Form or Order; reduc'd into a fluid Maſs, wherein are the Materials and Ingredients of all Bodies, but mingled in Confuſion one with another. As if you ſhould ſuppoſe all ſorts of Metals, Gold, Silver, Lead, *&c.* melted down together in a common Maſs, and ſo mingled, that the parts of no one Metal could be diſcern'd as diſtinct from the reſt, this would be a little Metallick Chaos; Suppoſe then the Elements thus mingled, Air, Water and Earth, which are the Principles of all Terreſtrial Bodies; mingled, I ſay, without any Order of higher or lower, heavier or lighter, ſolid or volatile, in ſuch a kind of confus'd Maſs as is here repreſented in the firſt Scheme.

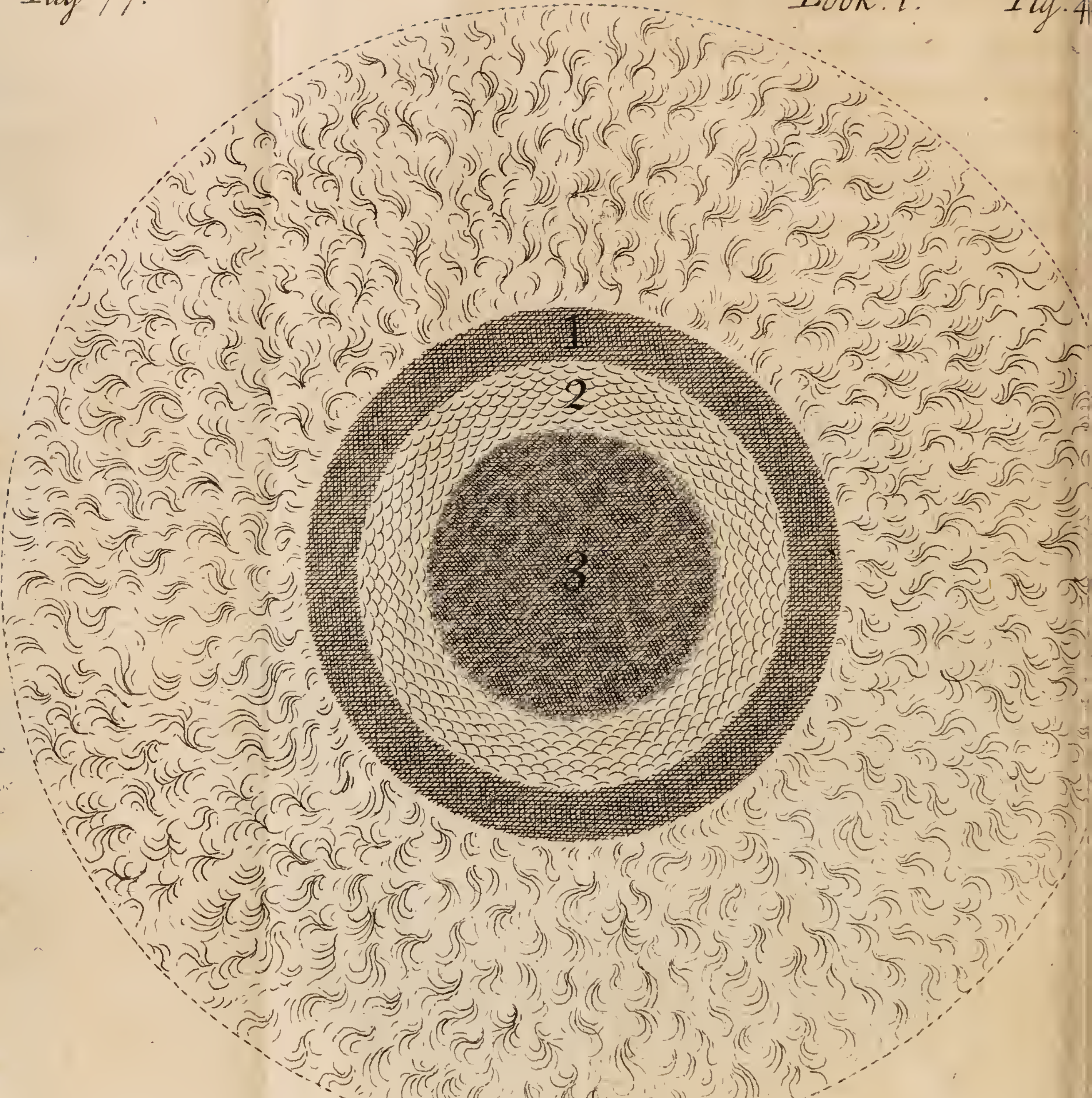
Let this then repreſent to us the Chaos; in which the firſt Change that we ſhould imagine to happen would be this, that the heavieſt and groſſeſt parts would ſink down towards the middle of it, (for there we ſuppoſe the Center of its Gravity) and the reſt would float above. Theſe groſſer parts thus ſunk down and compreſs'd more and more, would harden by degrees, and conſtitute the interiour parts of the Earth. The reſt of the Maſs, which ſwims above, would be alſo divided by the ſame Principle of Gravity into two Orders of Bodies, the one liquid like Water, the other volatile like Air. For the more fine and active Parts diſentangling themſelves by degrees from the reſt, would mount above them; and having Motion enough to keep them upon the Wing, would play in thoſe open Places where they conſtitute that Body we call AIR. The other Parts being groſſer than theſe, and having a more languid Motion, could not fly up ſeparate from one another, as theſe did, but ſettled in a Maſs together, under the Air, upon the Body of the Earth, compoſing not only Water ſtrictly ſo called, but the whole Maſs of Liquors, or liquid Bodies, belonging to the Earth. And theſe firſt Separations being thus made, the Body of the Chaos would ſtand in that Form which it is here repreſented in by the ſecond Scheme.

The liquid Maſs which encircled the Earth, was not, as I noted before, the mere Element of Water, but a Collection of all Liquors that belong to the Earth. I mean of all that do originally belong to it. Now ſeeing there are two chief kinds of Terreſtrial Liquors, thoſe that are fat, oily and light; and thoſe that are lean and more earthy, like common Water; which two are generally found in compound Liquors; we cannot doubt but there were of both ſorts in this common Maſs of Liquids. And it being well known, that theſe two kinds mixt together, if left to themſelves and the general Action of Nature, ſeparate one from another when they come to ſettle, Book. 1. Fig. 2.





Book . 1 . Fig . 4

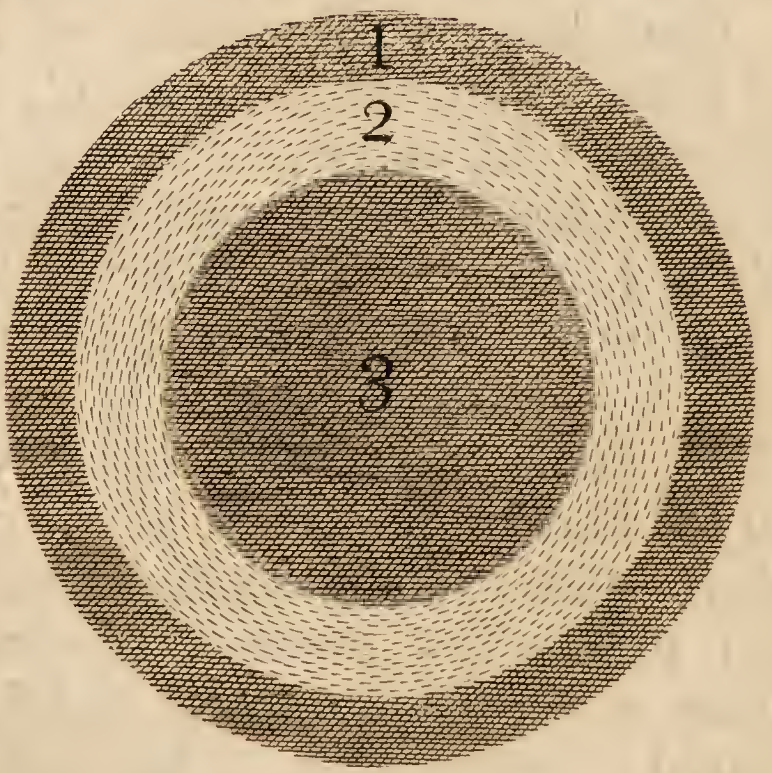


ſettle, as in Cream and thin Milk, Oil and Water, and ſuch like; we cannot but conclude, that the ſame Effect would follow here, and the more oily and light part of this Maſs would get above the other, and ſwim upon it. The whole Maſs being divided into two leſſer Maſſes, and ſo the Globe would ſtand as we ſee it in the third Figure.

Hitherto the Changes of the Chaos are eaſy and unqueſtionable, and would be diſpatcht in a ſhort time; we muſt now look over again theſe two great Maſſes of the *Air* and *Water*, and conſider how their Impurities or groſſer Parts would be diſpos'd of; for we cannot imagine but they were both at firſt very muddy and impure: And as the Water would have its ſediment, which we are not here concern'd to look after, ſo the great Regions of the Air would certainly have their ſediment too; for the Air was as yet thick, groſs and dark, there being an abundance of little Terreſtrial Particles ſwimming in it ſtill, after the groſſeſt were ſunk down; which, by their Heavineſs and lumpiſh Figure, made their way more eaſily and ſpeedily. The leſſer and lighter which remain'd, would ſink too, but more ſlowly, and in a longer time: ſo as in their Deſcent they would meet with that oily Liquor upon the Face of the Deep, or upon the watery Maſs, which would entangle and ſtop them from paſſing any further; whereupon mixing there with that unctious Subſtance, they compos'd a certain ſlime, or fat, ſoft, and light Earth, ſpread upon the Face of the Waters; as 'tis repreſented in the fourth Figure.

This thin and tender Orb of Earth increas'd ſtill more and more, as the little earthy Parts that were detain'd in the Air could make their way to it. Some having a long Journey from the upper Regions, and others being very light would float up and down a good while, before they could wholly diſengage themſelves and deſcend. But this was the general Rendezvous, which ſooner or later they all got to, and mingling more and more with that oily Liquor, they ſuckt it all up at length, and were wholly incorporate together, and ſo began to grow more ſtiff and firm, making both but one Subſtance, which was the firſt Concretion, or firm and conſiſtent Subſtance that roſe upon the Face of the Chaos. And the whole Globe ſtood in this Poſture, as in Figure the fifth.

Pag: 78. *Fig. 5*



It may be, you will ſay, we take our Liberty, and our own time for the Separation of theſe two Liquors, the oily and the earthy, the lighter and the heavier; and ſuppoſe that done before the Air was clear'd of Earthy Particles, that ſo they might be catcht and ſtopt there in their Deſcent. Whereas if all theſe Particles were fallen out of the Air before that Separation was made in the liquid Maſs, they would fall down through the Water, as the firſt did, and ſo no Concretion would be made, nor any earthy Cruſt form'd upon the Face of the Waters, as we here ſuppoſe there was. 'Tis true, there could be no ſuch Orb of Earth form'd there, if the Air was wholly purg'd of all its earthy Parts before the Maſs of Liquids began to purify it ſelf, and to ſeparate the oily Parts from the more heavy: But this is an unreaſonable and incredible Suppoſition, if we conſider, the Maſs of the Air was many thouſand times greater than the Water, and would in Proportion require a greater time to be purified; the Particles that were in the Regions of the Air having a long way to come before they reacht the Watery Maſs, and far longer than the oily Particles had to riſe from any part of that Maſs to the Surface of it. Beſides, we may ſuppoſe a great many degrees of Littleneſs and Lightneſs in theſe earthy Particles, ſo as many of them might float in the Air a good while, like Exhalations, before they fell down. And laſtly, We do not ſuppoſe the Separation of theſe two Liquors wholly made and finiſht before the

Purgation of the Air began, though we repreſent them ſo for Diſtinction ſake; Let them begin to purify at the ſame time, if you pleaſe, theſe parts riſing upwards, and thoſe falling downwards, they will meet in the middle, and unite and grow into one Body, as we have deſcrib'd. And this Body or new Concretion would be increas'd daily, being fed and ſupply'd both from above and below; and having done growing, it would become more dry by degrees, and of a Temper of greater Conſiſtency and Firmneſs, ſo as truly to reſemble and be fit to make an habitable Earth, ſuch as Nature intended it for.

But you will further object, it may be, that ſuch an Effect as this would indeed be neceſſary in ſome Degree and Proportion, but not in ſuch a Proportion, and in ſuch Quantity as would be ſufficient to make this Cruſt or Concrete Orb an habitable Earth. This I confeſs appear'd to me at firſt a real Difficulty, till I conſider'd better the great Diſproportion there is betwixt the Regions of the Air and the Circumference of the Earth, or of that exterior Orb of the Earth, we are now a making; which being many thouſand times leſs in Depth and Extent than the Regions of the Air, taken as high as the Moon, though theſe earthy Particles we ſpeak of were very thinly diſpers'd through thoſe vaſt Tracks of the Air, when they came to be collected and amaſs'd together upon the Surface of a far leſſer Sphere, they would conſtitute a Body of a very conſiderable Thickneſs and Solidity.

We ſee the Earth ſometimes covered with Snow two or three Feet deep, made up only of little Flakes or Pieces of Ice, which falling from the middle Region of the Air, and meeting with the Earth in their Deſcent, are there ſtopt and heapt up one upon another. But if we ſhould ſuppoſe little Particles of Earth to ſhower down, not only from the middle Region, but from the whole Capacity and Extent of thoſe vaſt Spaces that are betwixt us and the Moon, we could not imagine but theſe would conſtitute an Orb of Earth ſome thouſands of times deeper than the greateſt Snow; which being increas'd and ſwoln by that oily Liquor it fell into, and incorporated with, it would be thick, ſtrong, and great enough in all reſpects to render it an habitable Earth.

We cannot doubt therefore but ſuch a Body as this would be form'd, and would be ſufficient in Quantity for an habitable Earth. Then for the Quality of it, it will anſwer all the Purpoſes of a *Riſing World.* What can be a more proper Seminary for Plants and Animals, than a Soil of this Temper and Compoſition? A finer and lighter ſort of Earth, mixt with a benign Juice, eaſy and obedient to the Action of the Sun, or of what other Cauſes were employ'd by the Author of Nature, for the Production of things in the new-made Earth. What ſort or diſpoſition of matter could be more fit and ready to catch Life from Heaven, and to be drawn into all Forms that the Rudiments of Life, or the Bodies of living Creatures would require? What Soil more proper for Vegetation than this warm Moiſture, which could have no Fault, unleſs it was too Fertile and Luxuriant? And that is no Fault neither at the beginning of a World. This I am ſure of, that the Learned amongſt the Ancients, both *Greeks*, *Ægyptians*, *Phœnicians*, and others, have deſcrib'd the primigenial Soil, 'Ιλὺς πρωτογενὴς, or the Temper of the Earth, that was the firſt Subject for the Generation and Origin of Plants and Animals, after ſuch a manner, as is truly expreſs'd, and I think with advantage, by this Draught of the Primigenial Earth.

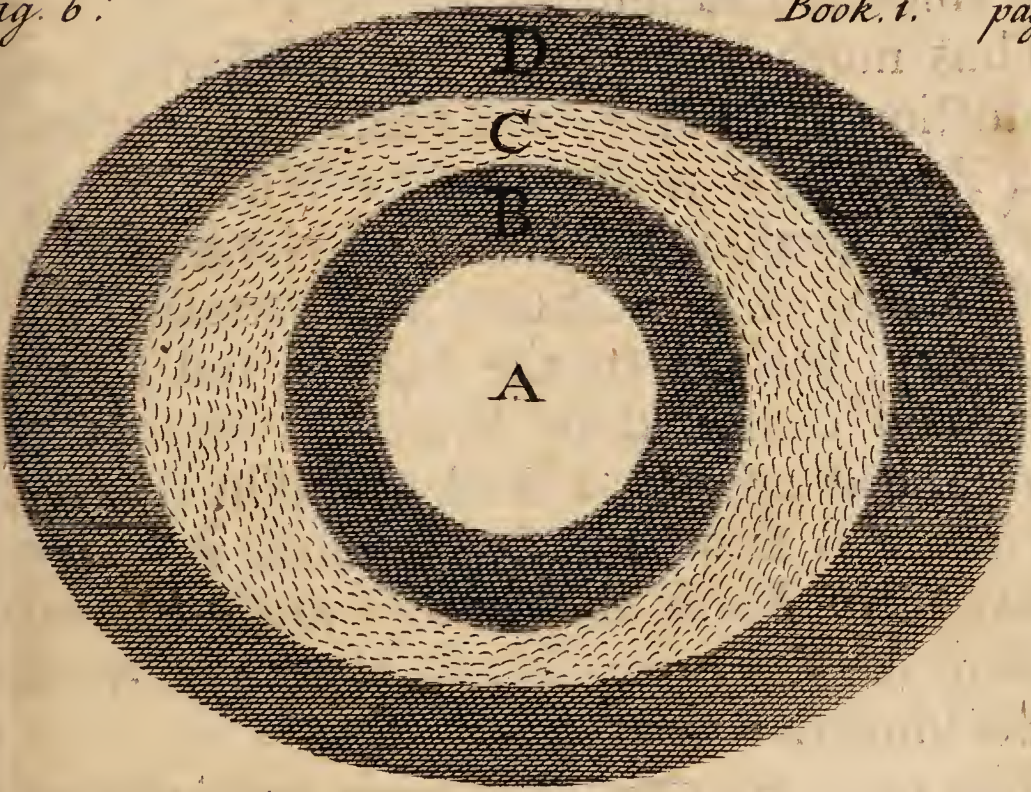
Thus much concerning the matter of the firſt Earth. Let us reflect a little upon the Form of it alſo, whether External or Internal; both whereof do manifeſtly ſhew themſelves from the manner of its Production or Formation. As to the External Form, you ſee it is according to the Propoſition we were to prove, *ſmooth, regular and uniform, without Mountains, and without a Sea.* And the Proof we have given of it is very eaſy; The Globe of the Earth could not poſſibly riſe immediately from a Chaos into the irregular Form in which it is at preſent. The Chaos being a fluid Maſs, which we know doth neceſſarily fall into a Spherical Surface, whoſe Parts are equi-diſtant from the Center, and conſequently in an equal and even Convexity one with another. And ſeeing upon the Diſtinction of a Chaos and Separation into ſeveral Elementary Maſſes, the Water would naturally have a ſuperiour Place to the Earth, 'tis manifeſt, that there could be no habitable Earth form'd out of the Chaos, unleſs by ſome Concretion upon the Face of the Water. Then laſtly, ſeeing this concrete Orb of Earth upon the Face of the Water would be of the ſame Form with the Surface of the Water it was ſpread upon, there being no Cauſes, that we know of, to make any Inequality in it, we muſt conclude it equal and uniform, and without Mountains, as alſo without a Sea; for the Sea and all the Maſs of Waters was enclos'd within this exteriour Earth, which had no other Baſis or Foundation to reſt upon.

The Contemplation of theſe things, and of this Poſture of the Earth upon the Waters, doth ſo ſtrongly bring to Mind certain Paſſages of Scripture, (which will recur in another Place) that we cannot, without Injury to Truth, paſs them by here in ſilence. Paſſages that have ſuch a manifeſt Reſemblance and Agreement to this Form and Situation of the Earth, that they ſeem viſibly to point at it: Such are thoſe Expreſſions of the Pſalmiſt, *God hath founded the Earth upon the Seas.* And in another Pſalm, ſpeaking of the Wiſdom and Power of God in the Creation, he ſaith, *To him who alone doth great Wonders; to him that by Wiſdom made the Heavens; to him that extended or ſtretched out the Earth above the Waters.* What can be more plain or proper to denote that Form of the Earth that we have deſcrib'd, and to expreſs particularly the Incloſure of the Waters within the Earth, as we have repreſented them? He ſaith in another Place; *By the Word of the Lord were the Heavens made; he ſhut up the Waters of the Sea as in Bags*, (for ſo the Word is to be render'd, and is render'd by all, except the *Engliſh*) *and laid up the Abyſs as in Store-houſes.* This, you ſee, is very conformable to that Syſtem of the Earth and Sea, which we have propos'd here. Yet there is ſomething more expreſs than all this in that remarkable place in the *Proverbs* of *Solomon*, where *Wiſdom* declaring her Antiquity and Exiſtence before the Foundation of the Earth, amongſt other things ſaith, *Prov.* 8. 27. *When he prepared the Heavens, I was there: When he drew an Orb over the Surface of the Abyſs*; or when he ſet an Orb upon the Face of the Abyſs. We render it in the *Engliſh* a *Compaſs*, or *Circle*, but 'tis more truly render'd an Orb or Sphere; and what Orb or Spherical Body was this, which at the Formation of the Earth was built and plac'd round about the Abyſs; but that wonderful Arch, whoſe Form and Production we have deſcrib'd, encompaſſing the Maſs of Waters, which in Scripture is often call'd the Abyſs or Deep? [*See Fig.* 5. *p.* 78. This Orb is repreſented by the Circle 1. and the Abyſs by the Region 2.] Laſtly, This Scheme of the firſt Earth gives Light to that Place we mention'd before of St. *Peter*'s, where the firſt Earth is ſaid to *conſiſt of Water, and by Water*; and by reaſon thereof was obnoxious to a Deluge. The firſt Part of this Character is plain from the Deſcription now given; and the ſecond will appear in the following Chapter. In the mean time, concerning theſe Paſſages of Scripture, which we have cited, we may truly and modeſtly ſay, that though they would not, it may be, without a Theory premis'd, have been taken or interpreted in this Senſe; yet this Theory being premis'd, I dare appeal to any unprejudic'd Perſon, if they have not a fairer and eaſier, a more full and more emphatical Senſe, when apply'd to that Form of the Earth and Sea, we are now ſpeaking of, than to their preſent Form, or to any other we can imagine.

Thus much concerning the external Form of the firſt Earth. Let us now reflect a little upon the internal Form of it, which conſiſts of ſeveral Regions, involving one another like Orbs about the ſame Center, or of the ſeveral Elements caſt circularly about each other; as it appears in the Fourth and Fifth Figure. And as we have noted the External Form of this primæval Earth, to have been markt and celebrated in the Sacred Writings; ſo likewiſe in the Philoſophy and Learning of the Ancients, there are ſeveral Remains and Indications of this Internal Form and Compoſition of it. For 'tis obſervable, that the Ancients in treating of the Chaos, and in raiſing the World out of it, rang'd it into ſeveral Regions or Maſſes, as we have done; and in that Order ſucceſſively, riſing one from another, as if it was a Pedegree or Genealogy. And thoſe Parts and Regions of Nature, into which the Chaos was by degrees divided, they ſignified commonly by dark and obſcure Names, as the *Night*, *Tartarus*, *Oceanus*, and ſuch like, which we have expreſs'd in their plain and proper Terms. And whereas the Chaos, when it was firſt ſet on work, ran all into Diviſions, and Separations of one Element from another, which afterwards were all in ſome Meaſure united and aſſociated in this Primigenial Earth; the Ancients accordingly made *Contention* the Principle that reign'd in the Chaos at firſt, and then *Love*: The one to expreſs the Diviſions, and the other the Union of all Parties in this middle and common Bond. Theſe, and ſuch like Notions which we find in the Writings of the Ancients figuratively and darkly deliver'd, receive a clearer Light, when compar'd with this Theory of the Chaos; which repreſenting every thing plainly, and in its natural Colours, is a Key to their Thoughts, and an Illuſtration of their obſcurer Philoſophy, concerning the Original of the World; as we have ſhewn at large in the *Latin* Treatiſe, *Lib.* 2. *chap.* 7.

There is another thing in Antiquity, relating to the Form and Conſtruction of the Earth, which is very remarkable, and hath obtain'd throughout all learned Nations and Ages. And that is the Compariſon or Reſemblance of the Earth to an *Egg*. And this is not ſo much for its External Figure, though that be true too, as for the inward Compoſition of it; conſiſting of ſeveral Orbs, one including another, and in that Order, as to anſwer the ſeveral Elementary Regions of which the new made Earth was conſtituted. For if we admit for the *Yolk* a Central Fire (which though very reaſonable, we had no occaſion to take Notice of in our Theory of the Chaos) and ſuppoſe the Figure of the Earth *Oval*, and a little extended towards the Poles, (as probably it was, ſeeing the Vortex that contains it is ſo) thoſe two Bodies do very naturally repreſent one another, as in this Scheme, which repreſents the Interiour Faces of both, a divided *Egg*, or Earth. Where, as the two inmoſt Regions (A, B) repreſent the Yolk and the Membrane that lies next above it; ſo the Exteriour Region of the Earth (D) is as the Shell of the Egg, and the Abyſs (C) under it as the White that lies under the Shell. And conſidering that this Notion of the *Mundane Egg*, or that the World was

Fig. 6. *Book. 1. pag. 87.*



Oviform,

Oviform, hath been the Senſe and Language of all Antiquity, *Latins*, *Greeks*, *Perſians*, *Ægyptians*, and others, as we have ſhew'd elſewhere, [*Tell. Theor. Sac. lib.* 2. *c.* 10.] I thought it worthy our Notice in this Place; ſeeing it receives ſuch a clear and eaſy Explication from that Origin and Fabrick we have given to the firſt Earth, and alſo reflects Light upon the Theory it ſelf, and confirms it to be no Fiction: This Notion, which is a kind of Epitome or Image of it, having been conſerv'd in the moſt Ancient Learning.

Thus much concerning the firſt Earth, its Production and Form; and concerning our ſecond Propoſition relating to it: Which being prov'd by Reaſon, the Laws of Nature, and the Motions of the Chaos; then atteſted by Antiquity, both as to the Matter and Form of it; and confirm'd by Sacred Writers, we may take it now for a well eſtabliſht Truth, and proceed upon this Suppoſition, *That the Antediluvian Earth was Smooth and Uniform, without Mountains or Sea*, to the Explication of the univerſal Deluge.

Give me leave only before we proceed any further, to annex here a ſhort Advertiſement, concerning the Cauſes of this wonderful Structure of the firſt Earth. 'Tis true, we have propos'd the natural Cauſes of it, and I do not know wherein our Explication is falſe or defective; but in things of this kind we may eaſily be too credulous. And this Structure is ſo marvellous, that it ought rather to be conſider'd as a particular Effect of the Divine Art than as the Work of Nature. The whole Globe of the Water vaulted over, and the Exterior Earth hanging above the Deep, ſuſtain'd by nothing but its own Meaſures and Manner of Conſtruction: A Building without Foundation or Corner-ſtone. This ſeems to be a piece of Divine Geometry or Architecture; and to this, I think, is to be refer'd that magnificent Challenge which God Almighty made to *Job*, *Job* 38. 4, 5, 6, 7, &c. *Where waſt thou when I laid the Foundations of the Earth? Declare if thou haſt Underſtanding. Who hath laid the Meaſures thereof, if thou knoweſt? Or who hath ſtretched the Line upon it? Whereupon are the Foundations thereof faſtned? Or who laid the Corner-ſtone thereof? When the Morning Stars ſang together, and all the Sons of God ſhouted for Joy. Moſes* alſo, when he had deſcrib'd the Chaos, ſaith, *The Spirit of God mov'd upon*, or ſat brooding upon, *the Face of the Waters*; without all doubt to produce ſome Effects there. And St. *Peter*, when he ſpeaks of the Form of the Antediluvian Earth, how it ſtood in reference to the Waters, adds, *By the Word of God*, Τῷ λόγῳ τȣ̃ Θεȣ̃, or by the Wiſdom of God it was made ſo. And this ſame *Wiſdom* of God, in the *Proverbs*, as we obſerved before, takes Notice of this very piece of Work in the Formation of the Earth. *When he ſet an Orb over the Face of the Deep I was there.* And laſtly, the Ancient Philoſophers, or at leaſt the beſt of them, to give them their due, always brought in *Mens* or *Amor*, Λόγος & Ἔρως, as a Supernatural Principle to unite and conſociate the parts of the Chaos; which was firſt done in the Compoſition of this wonderful Arch of the Earth. *Wherefore* to the great Architect, who made the boundleſs Univerſe out of nothing, and form'd the Earth out of a Chaos, let the Praiſe of the whole Work, and particularly of this Maſter-piece, for ever with all Honour be given.

CHAP. VI.

The Diſſolution of the firſt Earth: The Deluge enſuing thereupon. And the Form of the preſent Earth riſing from the Ruins of the Firſt.

WE have now brought to light the Antediluvian Earth out of the dark Maſs of the Chaos; and not only deſcribed the Surface of it, [*See Fig.* 5. *&* 6. *pag.* 78. *&* 87.] but laid open the inward parts, to ſhew in what Order its Regions lay. Let us now cloſe it up, and repreſent the Earth entire, and in larger Proportions, more like an habitable World; as in this Figure, where you ſee the ſmooth Convex of the Earth, and may imagine the great Abyſs ſpread under it; *As at the aperture* a a. which two are to be the only Subject of our further Contemplation.

In this ſmooth Earth were the firſt Scenes of the World, and the firſt Generations of Mankind; it had the Beauty of Youth and blooming Nature, freſh and fruitful, and not a Wrinkle, Scar or Fracture in all its Body; no ke 1st

p. 90.

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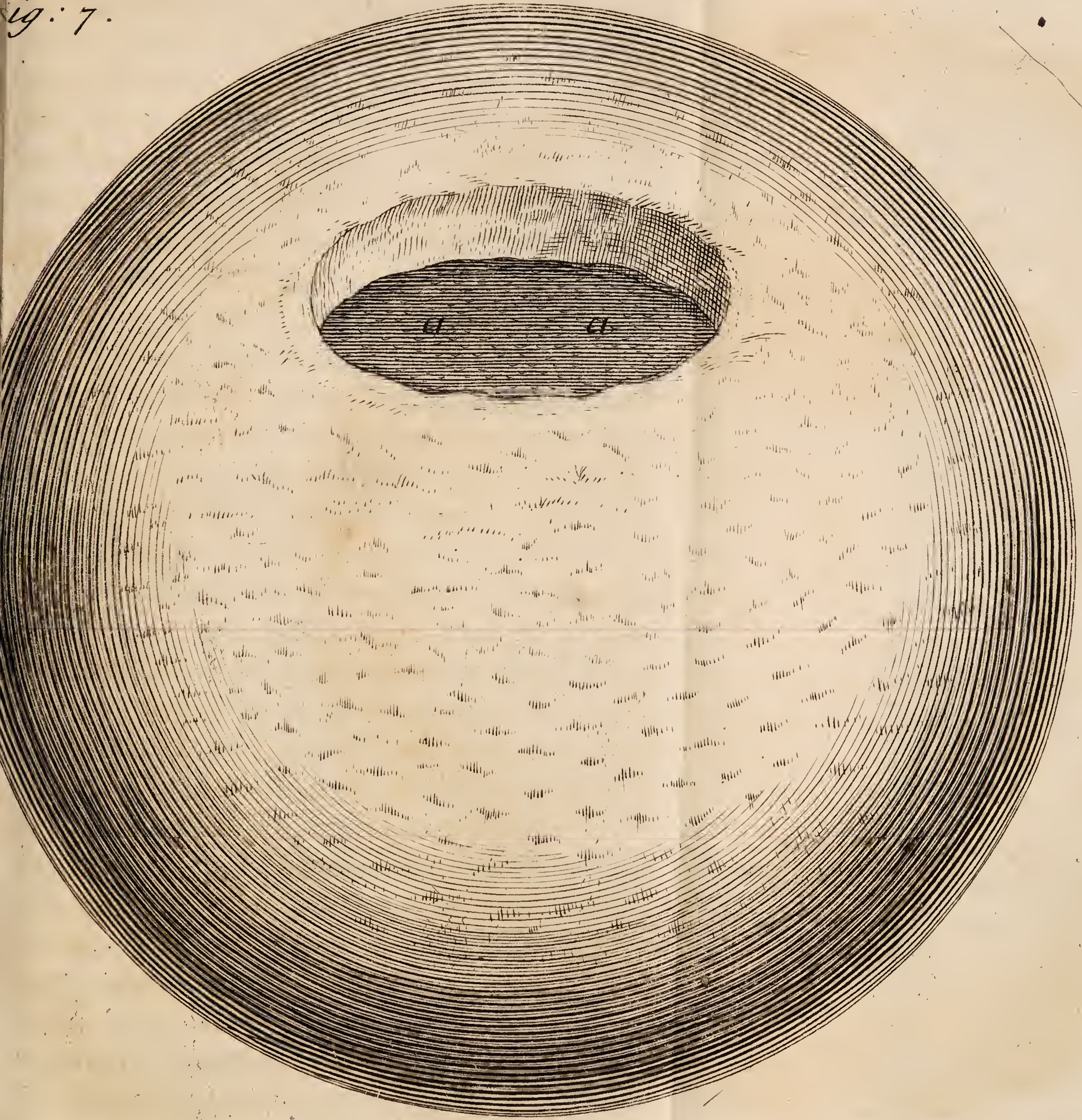

Rocks nor Mountains, no hollow Caves, nor gaping Channels, but even and uniform all over. And the Smoothneſs of the Earth made the Face of the Heavens ſo too; the Air was Calm and Serene; none of thoſe tumultuary Motions and Conflicts of Vapours, which the Mountains and the Winds cauſe in ours; 'Twas ſuited to a golden Age, and to the firſt Innocency of Nature.

All this you'll ſay is well, we are got into a pleaſant World indeed, but what's this to the Purpoſe? what Appearance of a Deluge here, where there is not ſo much as a Sea, nor half ſo much Water as we have in this Earth? or what Appearance of Mountains, or Caverns, or other Irregularities of the Earth, where all is level and united: So that inſtead of looſing the Knot, this ties it the harder. You pretend to ſhew us how the Deluge was made, and you lock up all the Waters within the Womb of the Earth, and ſet Bars and Doors, and a Wall of impenetrable Strength and Thickneſs to keep them there. And you pretend to ſhew us the Original of Rocks and Mountains, and Caverns of the Earth, and bring us to a wide and endleſs Plain, ſmooth as the calm Sea.

This is all true, and yet we are not ſo far from the Sight and Diſcovery of thoſe things as you imagine; draw but the Curtain, and theſe Scenes will appear, or ſomething very like 'em. We muſt remember that St. *Peter* told us, that the Antediluvian Earth periſh'd, or was demoliſh'd; and *Moſes* ſaith, the *great Abyſs* was broken open at the Deluge. Let us then ſuppoſe, that at a time appointed by Divine Providence, and from Cauſes made ready to do that great Execution upon a ſinful World, that this *Abyſs* was open'd, or that the Frame of the Earth broke and fell down into the *great Abyſs*. At this one ſtroke all Nature would be chang'd, and this ſingle Action would have two great and viſible Effects. The one Tranſient, and the other Permanent. Firſt, an Univerſal Deluge would overflow all the Parts and Regions of the broken Earth, during the great Commotion and Agitation of the Abyſs, by the violent Fall of the Earth into it. This would be the firſt and unqueſtionable Effect of this Diſſolution, and all that World would be deſtroy'd. Then when the Agitation of the Abyſs was aſſwag'd, and the Waters by degrees were retir'd into their Channels, and the dry Land appear'd, you would ſee the true Image of the preſent Earth in the Ruins of the firſt. The Surface of the Globe would be divided into Land and Sea; the Land would conſiſt of Plains and Valleys and Mountains, according as the Pieces of this Ruin were plac'd and diſpos'd: Upon the Banks of the Sea would ſtand the Rocks, and near the Shore would be Iſlands, or leſſer Fragments of Earth compaſs'd round by Water. Then as to Subterraneous Waters, and all Subterraneous Caverns and Hollowneſſes, upon this Suppoſition thoſe things could not be otherwiſe; for the Parts would fall hollow in many Places in this, as in all other Ruins:

And ſeeing the Earth fell into this Abyſs, the Waters at a certain height would flow into all thoſe hollow Places and Cavities; and would alſo ſink and inſinuate into many Parts of the ſolid Earth. And though theſe Subterraneous Vaults or Holes, whether dry or full of Water, would be more or leſs in all Places, where the Parts fell hollow; yet they would be found eſpecially about the Roots of the Mountains, and the higher Parts of the Earth; for there the ſides bearing up one againſt the other, they could not lie ſo cloſe at the bottoms, but many Vacuities would be intercepted. Nor are there any other Inequalities or Irregularities obſervable in the preſent Form of the Earth; whether in the Surface of it, or interiour Conſtruction, whereof this *Hypotheſis* doth give a ready, fair, and intelligible Account; and doth at one view repreſent them all to us, with their Cauſes, as in a Glaſs: And whether that Glaſs be true, and the Image anſwer to the Original, if you doubt of it, we will hereafter examine them Piece by Piece. But in the firſt Place, we muſt conſider the general Deluge, how eaſily and truly this Suppoſition repreſents and explains it, and anſwers all the Properties and Conditions of it.

I think it will be eaſily allow'd, that ſuch a Diſſolution of the Earth as we have propos'd, and Fall of it into the Abyſs, would certainly make an Univerſal Deluge; and effectually deſtroy the old World, which periſh'd in it. But we have not yet particularly prov'd this

Diſſolution, and in what manner the Deluge follow'd upon it: And to aſſert things in groſs never makes that firm Impreſſion upon our Underſtandings, and upon our Belief, as to ſee them deduc'd with their Cauſes and Circumſtances; and therefore we muſt endeavour to ſhew what Preparations there were in Nature for this great Diſſolution, and after what manner it came to paſs, and the Deluge in conſequence of it.

We have noted before, that *Moſes* imputed the Deluge to the Diſruption of the Abyſs; and St. *Peter*, to the particular Conſtitution of that Earth, which made it obnoxious to be abſorpt in Water, ſo that our Explication ſo far is juſtified. But it was below the Dignity of thoſe Sacred Pen-men, or the Spirit of God that directed them, to ſhew us the Cauſes of this Diſruption, or of this Abſorption; this is left to the Enquiries of Men. For it was never the Deſign of Providence, to give ſuch particular Explications of natural Things, as ſhould make us idle, or the Uſe of Reaſon unneceſſary; but on the contrary, by delivering great Concluſions to us, to excite our Curioſity and Inquiſitiveneſs after the Methods, by which ſuch things were brought to paſs: And it may be there is no greater Trial or Inſtance of natural Wiſdom, than to find out the Channel, in which theſe great Revolutions of Nature, which we treat on, flow and ſucceed one another.

Let us therefore reſume that Syſtem of the Antediluvian Earth, which we have deduc'd from the Chaos, and which we find to anſwer St. *Peter*'s Deſcription, and *Moſes*'s Account of the Deluge. This Earth could not be obnoxious to a Deluge, as the Apoſtle ſuppoſeth it to have been, but by a Diſſolution; for the Abyſs was encloſ'd within its Bowels. And *Moſes* doth in effect tell us, there was ſuch a Diſſolution; when he ſaith, *The Fountains of the great Abyſs were broken open.* For Fountains are broken open no otherwiſe than by breaking up the Ground that covers them. We muſt therefore here enquire in what Order, and from what Cauſes the Frame of this exterior Earth was diſſolv'd, and then we ſhall ſoon ſee how, upon that Diſſolution, the Deluge immediately prevail'd and overflow'd all the Parts of it.

I do not think it in the power of humane Wit to determine how long this Frame would ſtand, how many Years, or how many Ages; but one would ſoon imagine, that this kind of Structure would not be perpetual, nor laſt indeed many thouſands of Years, if one conſider the Effect that the Heat of the Sun would have upon it and the Waters under it; drying and parching the one, and rarefying the other into Vapours. For we muſt conſider, that the Courſe of the Sun at that time, or the Poſture of the Earth to the Sun, was ſuch, that there was no Diverſity or Alternation of Seaſons in the Year, as there is now; by reaſon of which Alternation, our Earth is kept in an Equality of Temper, the contrary Seaſons balancing one another; ſo as what Moiſture the Heat of the Summer ſucks out of the Earth, 'tis repaid in the Rains of the next Winter; and what Chaps were made in it, are fill'd up again, and the Earth reduc'd to its former Conſtitution. But if we ſhould imagine a continual Summer, the Earth would proceed in Drineſs ſtill more and more, and the Cracks would be wider and pierce deeper into the Subſtance of it; And ſuch a continual Summer there was, at leaſt an Equality of Seaſons in the Antediluvian Earth, as ſhall be prov'd in the following Book, concerning *Paradiſe*. In the mean time,this being ſuppos'd, let us conſider what Effect it would have upon this Arch of the exterior Earth, and the Waters under it.

We cannot believe, but that the Heat of the Sun, within the Space of ſome hundreds of Years, would have reduc'd this Earth to a conſiderable degree of Drineſs in certain Parts; and alſo have much rarefied and exhal'd the Waters beneath it: And conſidering the Structure of that Globe, the exterior Cruſt, and the Waters lying round under it, both expos'd to the Sun, we may fitly compare it to an *Æolipile*, or an hollow Sphere with Water in it, which the Heat of the Fire rarefies and turns into Vapours and Wind. The Sun here is as the Fire, and the exterior Earth is as the Shell of the *Æolipile*, and the Abyſs as the Water within it; now when the Heat of the Sun had pierced through the Shell and reach'd the Waters, it began to rarefy them, and raiſe them into Vapours; which Rarefaction made them require more Space and Room than they needed before, while they lay cloſe and quiet. And finding themſelves pent in by the exterior Earth, they preſs'd with Violence againſt that Arch, to make it yield and give way to their Dilatation and Eruption. So we ſee all Vapours and Exhalations inclos'd within the Earth, and agitated there, ſtrive to break out, and often ſhake the Ground with their Attempts to get looſe. And in the Compariſon we us'd of an *Æolipile*, if the Mouth of it be ſtopt that gives the Vent, the Water rarefied will burſt the Veſſel with its Force. And the Reſemblance of the Earth to an Egg, which we us'd before, holds alſo in this reſpect; for when it heats before the Fire, the Moiſture and Air within being rarefied, makes it often burſt the Shell. And I do the more willingly mention this laſt Compariſon, becauſe I obſerve that ſome of the Ancients, when they ſpeak of the Doctrine of the *Mundane Egg*, ſay, that after a certain Period of Time it was broken.

But there is yet another Thing to be conſidered in this Caſe; for as the Heat of the Sun gave Force to theſe Vapours more and more, and made them more ſtrong and violent; ſo on the other hand, it alſo weaken'd more and more the Arch of the Earth, that was to reſiſt them; ſucking out the Moiſture that was the Cement of its parts, drying it immoderately, and chapping it in ſundry Places. And there being no Winter then to cloſe up and unite its Parts, and reſtore the Earth to its former Strength and Compactneſs, it grew more and more diſpos'd to a Diſſolution. And at length, theſe Preparations in Nature being made on either ſide, the Force of the Vapours increas'd, and the Walls weaken'd which ſhould have kept them in, when the appointed time was come, that All-wiſe Providence had deſign'd for the Puniſhment of a ſinful World, the whole Fabrick brake, and the Frame of the Earth was torn in Pieces, as by an Earthquake; and thoſe great Portions or Fragments, into which it was divided, fell down into the Abyſs, ſome in one Poſture, and ſome in another.

This is a ſhort and general Account how we may conceive the Diſſolution of the firſt Earth, and an Univerſal Deluge ariſing upon it. And this manner of Diſſolution hath ſo many Examples in Nature every Age, that we need not inſiſt farther upon the Explication of it. The generality of Earthquakes ariſe from like Cauſes, and often end in a like Effect, a partial Deluge, or Inundation of the Place or Country where they happen; and of theſe we have ſeen ſome Inſtances even in our own Times: But whenſoever it ſo happens that the Vapours and Exhalations ſhut up in the Caverns of the Earth, by Rarefaction or Compreſſion come to be ſtraitned, they ſtrive every way to ſet themſelves at Liberty, and often break their Priſon, or the Cover of the Earth that kept them in; which Earth upon that Diſruption falls into the Subterraneous Caverns that lie under it: And if it ſo happens that thoſe Caverns are full of Water, as generally they are, if they be great or deep, that City or Tract of Land is drown'd. And alſo the Fall of ſuch a Maſs of Earth, with its Weight and Bulk, doth often force out the Water ſo impetuouſly, as to throw it upon all the Country round about. There are innumerable Examples in Hiſtory (whereof we ſhall mention ſome hereafter) of Cities and Countries thus ſwallow'd up, or overflow'd, by an Earthquake, and an Inundation ariſing upon it. And according to the manner of their Fall or Ruin, they either remain'd wholly under Water, and perpetually drown'd, as *Sodom* and *Gomorrah*, *Plato*'s *Atlantis*, *Bura* and *Helice*, and other Cities and Regions in *Greece* and *Aſia*; or they partly emerg'd, and became dry Land again; when (their Situation being pretty high) the Waters, after their violent Agitation was abated, retir'd into the lower Places, and into their Channels.

Now if we compare theſe partial Diſſolutions of the Earth with an univerſal Diſſolution, we may as eaſily conceive an univerſal Deluge from an univerſal Diſſolution, as a partial Deluge from a partial. If we can conceive a City, a Country, an Iſland, a Continent thus abſorpt and overflown; if we do but enlarge our Thought and Imagination a little, we may conceive it as well of the whole Earth. And it ſeems ſtrange to me, that none of the Ancients ſhould hit upon this way of explaining the Univerſal Deluge; there being ſuch frequent Inſtances in all Ages and Countries of Inundations made in this manner, and never of any great Inundation made otherwiſe, unleſs in maritime Countries, by the Irruption of the Sea into Grounds that lie low. 'Tis true, they would not ſo eaſily imagine this Diſſolution, becauſe they did not underſtand the true Form of the Antediluvian Earth; but methinks, the Examination of the Deluge ſhould have led them to the Diſcovery of that: For obſerving the Difficulty, or Impoſſibility of an Univerſal Deluge, without the Diſſolution of the Earth; as alſo frequent Inſtances of theſe Diſſolutions accompanied with Deluges, where the Ground was hollow, and had Subterraneous Waters; this, methinks, ſhould have prompted them to imagine, that thoſe Subterraneous Waters were Univerſal at that time, or extended quite round the Earth; ſo as a Diſſolution of the exteriour Earth could not be made any where but it would fall into Waters, and be more or leſs overflow'd. And when they had once reacht this Thought, they might conclude both what the Form of the Antediluvian Earth was, and that the Deluge came to paſs by the Diſſolution of it. But we reaſon with eaſe about the finding out of things, when they are once found out; and there is but a thin Paper-wall ſometimes between the great Diſcoveries and a perfect Ignorance of them. Let us proceed now to conſider, whether this Suppoſition will anſwer all the Conditions of an Univerſal Deluge, and ſupply all the Defects which we found in other Explications.

The great difficulty propos'd, was to find Water ſufficient to make an Univerſal Deluge, reaching to the tops of the Mountains; and yet that this Water ſhould be tranſient, and after ſome time ſhould ſo return into its Channels, that the dry Land would appear, and the Earth become again habitable. There was that double Impoſſibility in the common Opinion, that the Quantity of Water neceſſary for ſuch a Deluge was no where to be found, or could no way be brought upon the Earth; and then if it was brought, could no way be remov'd again. Our Explication quite takes off the edge of this Objection; for, performing the ſame Effect with a far leſs Quantity of Water, 'tis both eaſy to be found, and eaſily remov'd when the Work is done. When the exteriour Earth was broke, and fell into the Abyſs, a good part of it was cover'd with Water by the meer depth of the Abyſs it fell into, and thoſe Parts of it that were higher than the Abyſs was deep, and conſequently would ſtand above it in a calm Water, were notwithſtanding reach'd and overtop'd by the Waves, during the Agitation and violent Commotion of the Abyſs. For it is not imaginable what the Commotion of the Abyſs would be upon this Diſſolution of the Earth, nor to what height its Waves would be thrown, when thoſe prodigious Fragments were tumbled down into it. Suppoſe a Stone of ten thouſand Weight taken up into the Air a Mile or two, and then let fall into the middle of the Ocean, I do not believe but that the daſhing of the Water upon that Impreſſion would riſe as high as a Mountain. But ſuppoſe a mighty Rock or heap of Rocks to fall from that height, or a great Iſland, or a Continent; theſe would expel the Waters out of their Places with ſuch a Force and Violence, as to fling them among the higheſt Clouds.

'Tis incredible to what height ſometimes great Stones and Cinders will be thrown, at the Eruptions of fiery Mountains; and the Preſſure of a great Maſs of Earth falling into the Abyſs, though it be a Force of another kind, could not but impel the Water with ſo much ſtrength, as would carry it up to a great height in the Air: and to the top of any thing that lay in its way, any Eminency, high Fragment, or new Mountain: And then rolling back again, it would ſweep down with it whatſoever it ruſht upon, Woods, Buildings, living Creatures, and carry them all headlong into the great Gulph. Sometimes a Maſs of Water would be quite ſtruck off and ſeparate from the reſt, and toſt through the Air like a flying River; but the common Motion of the Waves was to climb up the Hills or inclin'd Fragments; and then return into the Valleys and Deeps again, with a perpetual Fluctuation going and coming, aſcending and deſcending, till the violence of them being ſpent by degrees, they ſettled at laſt in the Places allotted for them; where *Bounds are ſet that they cannot paſs over, that they return not again to cover the Earth.* Pſal. 104. 6, 7, 8, 9.

Neither is it to be wonder'd, that the great Tumult of the Waters, and the Extremity of the Deluge laſted for ſome Months; for beſides, that the firſt Shock and Commotion of the Abyſs was extremely violent, from the general Fall of the Earth, there were ever and anon ſome ſecondary Ruins; or ſome Parts of the great Ruin, that were not well ſettled, broke again, and made new Commotions: And 'twas a conſiderable Time before the great Fragments that fell, and their leſſer Dependencies could be ſo adjuſted and fitted, as to reſt in a firm and immoveable Poſture: For the Props and Stays whereby they lean'd one upon another, or upon the Bottom of the Abyſs, often fail'd, either by the incumbent Weight or the violent Impulſes of the Water againſt them; and ſo renewed, or continued the Diſorder and Confuſion of the Abyſs. Beſides, we are to obſerve, that theſe great Fragments falling hollow, they inclos'd and bore down with them under their concave Surface a great deal of Air; and while the Water compaſs'd theſe Fragments, and overflow'd them, the Air could not readily get out of thoſe Priſons, but by degrees, as the Earth and Water above would give way; ſo as this would alſo hinder the Settlement of the Abyſs, and the retiring of the Water into thoſe Subterraneous Channels, for ſome Time. But at length, when this Air had found a vent, and left its place to the Water, and the Ruins both primary and ſecondary were ſettled and fix'd, then the Waters of the Abyſs began to ſettle too, and the dry Land to appear; firſt the tops of the Mountains, then the high Grounds, then the Plains and the reſt of the Earth. And this gradual Subſidency of the Abyſs (which *Moſes* alſo hath particularly noted) and Diſcovery of the ſeveral Parts of the Earth, would alſo take up a conſiderable Time.

Thus a new World appear'd, or the Earth put on its new Form, and became divided into Sea and Land; and the Abyſs, which from ſeveral Ages, even from the beginning of the World, had lain hid in the Womb of the Earth, was brought to light and diſcover'd; the greateſt part of it conſtituting our preſent Ocean, and the reſt filling the lower Cavities of the Earth: Upon the Land appear'd the Mountains and the Hills, and the Iſlands in the Sea, and the Rocks upon the Shore. And ſo the Divine Providence, having prepar'd Nature for ſo great a Change, at one ſtroke diſſolv'd the Frame of the old World, and made us a new one out of its Ruins, which we now inhabit ſince the Deluge. All which Things being thus explain'd, deduc'd, and ſtated, we now add and pronounce our Third and laſt Propoſition; *That the Diſruption of the Abyſs, or Diſſolution of the primæval Earth, and its Fall into the Abyſs, was the Cauſe of the Univerſal Deluge, and of the Deſtruction of the old World.*

CHAP. VII.

That the Explication we have given of an Univerſal Deluge is not an Idea *only, but an Account of what really came to paſs in this Earth, and the true Explication of* Noah's *Flood; as is prov'd by Argument and from Hiſtory. An Examination of* Tehom-Rabba, *or the great Abyſs, and that by it the Sea cannot be underſtood, nor the Subterraneous Waters, as they are at preſent. What the true Notion and Form of it was, collected from* Moſes *and other Sacred Writers; The frequent Alluſions in Scripture to the opening and ſhutting the Abyſs, and the particular Stile of Scripture in its Reflections on the Origin. And the Formation of the Earth. Obſervations on* Deucalion's *Deluge.*

WE have now given an Account of the firſt great Revolution of Nature, and of the Univerſal Deluge, in a way that is intelligible, and from Cauſes that anſwer the Greatneſs of the Effect; We have ſuppos'd nothing but what is alſo prov'd, both as to the firſt Form of the Earth, and as to the manner of its Diſſolution: and how far from that would evidently and neceſſarily ariſe a general Deluge; which was that, which put a Period to the old World, and the firſt ſtate of Things. And tho' all this hath been deduc'd in due Order, and with Connexion and Conſequence of one thing upon another, ſo far as I know, which is the true Evidence of a Theory; yet it may not be ſufficient to command the Aſſent and Belief of ſome Perſons, who will allow, it may be, and acknowledge, that this is a fair *Idea* of a poſſible Deluge in general, and of the Deſtruction of a World by it; but this may be only an *Idea*, they'll ſay; we deſire it may be prov'd from ſome collateral Arguments, taken either from Sacred Hiſtory, or from Obſervation, that this hath really been exemplified upon the Earth, and that *Noah*'s Flood came to paſs this way. And ſeeing we have deſign'd this firſt Book chiefly for the Explication of *Noah*'s Deluge, I am willing to add here a Chapter or two extraordinary upon this occaſion; to ſhew, that what we have delivered is more than an *Idea*, and that it was in this very way that *Noah*'s Deluge came to paſs. But they who have not this Doubt, and have a Mind to ſee the Iſſue of the Theory, may skip theſe two Chapters, if they pleaſe, and proceed to the following, where the Order is continued.

To ſatisfy then the Doubtful in this Particular, let us lay down in the firſt place that Concluſion which they ſeem to admit, *viz.* That this is a poſſible and conſiſtent Explication of an Univerſal Deluge; and let's ſee how far this would go, if well conſider'd, towards the Proof of what they deſire, or towards the Demonſtration of *Noah*'s Deluge in particular. It is granted on both Hands, that there hath been an Univerſal Deluge upon the Earth, which was *Noah*'s Deluge; and it is alſo granted, that we have given a poſſible and conſiſtent *Idea* of an Univerſal Deluge: Now we have prov'd *Chap. II.* and *III.* that all other ways hitherto aſſign'd for the Explication of *Noah*'s Flood are incongruous or impoſſible; therefore it came to paſs in that poſſible and competent way which we have propos'd. And if we have truly prov'd, in the foremention'd Chapters, the Impoſſibility or Unintelligibility of it in all other ways, this Argumentation is undeniable. Beſides, we may argue thus, as it is granted that there hath been an Univerſal Deluge upon the Earth; ſo I ſuppoſe it will be granted that there hath been but one: Now the Diſſolution of the Earth, whenſoever it happen'd, would make one Univerſal Deluge, and therefore the only one, and the ſame with *Noah*'s. That ſuch a Diſſolution as we have deſcrib'd, would make an Univerſal Deluge, I think, cannot be queſtion'd; and that there hath been ſuch a Diſſolution, beſides what we have already alledg'd, ſhall be prov'd at large from natural Obſervations upon the Form and Figure of the preſent Earth, in the *Third* Section and laſt *Chapter* of this Book; In the mean time we will proceed to Hiſtory, both Sacred and Profane, and by comparing our Explication with thoſe, give further Aſſurance of its Truth and Reality.

In the firſt Place, it agrees, which is moſt conſiderable, with *Moſes*'s Narration of the Deluge; both as to the Matter and Manner of it. The Matter of the Deluge *Moſes* makes to be the Waters from above, and the Waters from below; or he diſtinguiſhes the Cauſes of the Deluge, as we do, into Superior and Inferior, *Gen.* 7. 11. and the Inferior Cauſes he makes to be the Diſruption of the Abyſs, which is the principal part, and the great Hinge of our Explication. Then as to the Manner of the Deluge, the Beginning and the Ending, the Increaſe and Decreaſe, he ſaith, *ver.* 17, 18, 19, 20. *cap.* 8. 3, 5. it increas'd gradually, and decreas'd gradually, by *going* and *coming*; that is, after many repeated Fluctuations and Reciprocations of the Waves, the Waters of the Abyſs began to be more compos'd, and to retire into their Channels, whence they ſhall never return to cover the Earth again. This agrees wholly with our Theory; we ſuppoſe the Abyſs to have been under an extream Commotion and Agitation by the Fall of the Earth into it, and this at firſt encreas'd more and more, till the whole Earth was faln; then continuing for ſome time at the height of its Rage, overwhelming the greateſt Mountains, it afterwards decreas'd by the like degrees, leaving firſt the tops of the Mountains, then the Hills and the Fields, till the Waters came to be wholly drawn off the Earth into their Channels.

It was no doubt a great Overſight in the Ancients, to fancy the Deluge like a great ſtanding Pool of Water, reaching from the bottom of the Valleys to the tops of the Mountains, every where alike, with a level and uniform Surface; by reaſon of which miſtaken Notion of the Deluge, they made more Water neceſſary to it than was poſſible to be had, or being had, than it was poſſible to get quit of again; for there are no Channels in the Earth that could hold ſo much Water, either to give it, or to receive it. And the *Pſalmiſt*, [*vid. St. Auſtin in loc.*] ſpeaking of the Deluge, as it ſeems to me, notes this violent Commotion of the Abyſs, Pſal. 104. verſes 8, 9. *The Waters went up by the Mountains, came down by the Valleys unto the Place which thou haſt founded for them.* I know ſome interpret that Paſſage of the State of the Waters in the beginning, when they cover'd the Face of the whole Earth, *Gen.* 1. 2. but that cannot be, becauſe of what follows in the next Verſe; *Thou haſt ſet a Bound that they may not paſs over, that they turn not again to cover the Earth.* Which is not true, if the preceeding Words be underſtood of the State of the Waters at the beginning of the World; for they did paſs thoſe Bounds, and did return ſince that time to cover the Earth, namely at the Deluge: But if theſe Words be refer'd to the time of the Deluge, and the ſtate of the Waters then, 'tis both a juſt Deſcription of the Motion of the Abyſs, and certainly true, that the Waters ſince that time are ſo ſettled in their Channels, that they ſhall never overflow the Earth again. As we are aſſured by the Promiſe made to *Noah*, and that illuſtrious Pledge and Confirmation of it, the *Rainbow*, that the Heavens alſo ſhall never pour out ſo much Waters again; their State being chang'd as well as that of the

Earth, or Sea, from what they were before the Deluge.

But before we leave *Moſes*'s Narration of the Deluge, we muſt examine further, what is, or can be underſtood by his TEHOM-RABBA, or *great Abyſs*, which, he ſaith, was broken up at the Deluge, *Gen.* 7. 11. for this will help us to diſcover, whether our Explication be the ſame with his, and of the ſame Flood. And firſt we muſt conſider, whether by the *Tehom-Rabba*, or Moſaical Abyſs, can be underſtood the Sea or Ocean, under that Form we ſee it in at preſent; and 'tis plain, methinks, that the Sea cannot be underſtood by this great Abyſs, both becauſe the Sea is not capable upon any Diſruption to make ſuch an Univerſal Deluge; and becauſe the Narration of *Moſes*, and his Expreſſions concerning this Abyſs, do not agree to the Sea. Some of the Ancients indeed did imagine, that the Waters of the Sea were much higher than the Land, and ſtood, as it were, on an heap; ſo as when theſe Waters were let looſe, they overflow'd the Earth, and made a Deluge. But this is known to be a groſs Miſtake; the Sea and the Land make one Globe, and the Waters couch themſelves, as cloſe as may be, to the Center of this Globe in a Spherical Convexity; ſo that if all the Mountains and Hills were ſcal'd, and the Earth made even, the Waters would not overflow its ſmooth Surface; much leſs could they overflow it in the Form that it is now, where the Shores are higher than the Sea, the Inland Parts than the Shores, and the Mountains ſtill far above all: So as no Diſruption of the Sea could make an Univerſal Deluge, by reaſon of its Situation. But beſides that, the Quantity of Water contain'd in the Sea is no way ſufficient to make a Deluge in the preſent Form of the Earth; for we have ſhewn before, *Chap.* 2. that eight ſuch Oceans as ours would be little enough for that Purpoſe. Then as to the Expreſſions of *Moſes* concerning this Abyſs, if he had meant the Sea by it, and that the Deluge was made by the Diſruption of the Sea, why did he not ſay ſo? There is no mention of the Sea in all the Hiſtory of the Deluge: *Moſes* had mention'd the Sea before, *Gen.* 1. 10. and us'd a Word that was common, and known to ſignify the Sea; and if he had a Mind to expreſs the ſame thing here, why ſhould he not uſe the ſame Word and the ſame Term? In an Hiſtorical Relation we uſe Terms that are moſt proper and beſt known; but inſtead of that he uſeth the ſame Term here that he did, *Gen.* 1. 2. when he ſaith, *Darkneſs was upon the Face of the Abyſs, or of the Deep*, as we render it; there the Abyſs was open, or cover'd with Darkneſs only, namely before the exterior Earth was form'd; Here the ſame Abyſs is mention'd again, but cover'd, by the Formation of the Earth upon it; and the covering of this Abyſs was broken or *cloven aſunder*, and the Waters guſht out that made the Deluge. This I am ſure is the moſt natural Interpretation or Signification of this Word, according as it is us'd in *Moſes*'s Writings. Furthermore,

thermore, we muſt obſerve what *Moſes* ſaith concerning this Abyſs, and whether that will agree with the Sea or no; he ſaith the *Fountains of the great Abyſs were broken open*; now if by the great Abyſs you underſtand the Sea, how are its Fountains broken open? To break open a Fountain, is to break open the Ground that covers it, and what Ground covers the Sea? So that upon all Conſiderations, either of the Word that *Moſes* here uſeth, *Tehom-Rabba*, or of the thing affirmed concerning it, *breaking open its Fountains*; or of the Effect following the breaking open its Fountains, *drowning of the Earth*; from all theſe Heads it is manifeſt, that the Sea cannot be underſtood by the great *Abyſs*, whoſe Diſruption was the Cauſe of the Deluge.

And as the *Moſaical* Abyſs cannot be the Sea, ſo neither can it be thoſe Subterraneous Waters that are diſpers'd in the Cells and Caverns of the Earth; for as they are now lodg'd within the Earth, they are not one *Abyſs*, but ſeveral Ciſterns and Receptacles of Water in ſeveral Places, eſpecially under the Roots of Mountains and Hills, ſeparate one from another, ſometimes by whole Regions and Countries interpos'd. Beſides, what Fountains, if they were broken up, could let out this Water, or bring it upon the Face of the Earth? When we ſink a Mine, or dig a Well, the Waters, when uncover'd, do not leap out of their Places out of thoſe Cavities, or at leaſt, do not flow upon the Earth; 'Tis not as if you open'd a Vein, where the Blood ſpirts out, and riſeth higher than its Source; but as when you take off the Cover of a Veſſel, the Water doth not fly out for that: So if we ſhould imagine all the ſubterraneous Caverns of the Earth uncover'd, and the Waters laid bare, there they would lie unmov'd in their Beds, if the Earth did not fall into them to force them up. Furthermore, If theſe Waters were any way extracted and laid upon the Surface of the Ground, nothing would be gain'd as to the Deluge by that, for as much Water would run into theſe Holes again when the Deluge begun to riſe; ſo that this would be but an uſeleſs Labour, and turn to no Account. And laſtly, Theſe Waters are no way ſufficient for Quantity to anſwer to the *Moſaical* Abyſs, or to be the principal Cauſe of the Deluge, as that was.

Now, ſeeing neither the Sea, as it is at preſent, nor the ſubterraneous Waters, as they are at preſent, can anſwer to the *Moſaical* Abyſs, we are ſure there is nothing in this preſent Earth that can anſwer to it. Let us then on the other Hand compare it with that ſubterraneous Abyſs, which we have found in the Ante-diluvian Earth, repreſented 5 *Fig.* 2. *p.* 78. and examine their Characters and Correſpondency: Firſt, *Moſes*'s Abyſs was cover'd, and ſubterraneous, for the Fountains of it are ſaid to have been cloven or burſt open; then, it was vaſt and capacious; and thirdly, it was ſo diſpos'd, as to be capable of a Diſruption, that would cauſe an univerſal Deluge to the Earth. Our Ante-diluvian Abyſs anſwers truly to all theſe Characters; it was in the Womb of the Earth; the Earth was founded upon thoſe Waters, as the *Pſalmiſt* ſaith; or they were inclos'd within the Earth as in a Bag. Then for the Capacity of it, it contained both all the Waters now in the Ocean, and all thoſe that are diſpers'd in the Caverns of the Earth: And laſtly, it is manifeſt its Situation was ſuch, that upon a Diſruption or Diſſolution of the Earth which cover'd it, an univerſal Deluge would ariſe. Seeing then this anſwers the Deſcription, and all the Properties of the *Moſaical* Abyſs, and nothing elſe will, how can we in Reaſon judge it otherwiſe than the ſame, and the very Thing intended and propos'd in the Hiſtory of *Noah*'s Deluge under the Name of *Tehom-Rabba*, or the great Abyſs, at whoſe Diſruption the World was over-flow'd? And as we do not think it an unhappy Diſcovery to have found out, (with a moral Certainty) the Seat of the *Moſaical* Abyſs, which hath been almoſt as much ſought for, and as much in vain, as the Seat of *Paradiſe*; ſo this gives us a great Aſſurance, that the Theory we have given of a general Deluge, is not a mere Idea, but is to be appropriated to the Deluge of *Noah*, as a true Explication of it.

And to proceed now from *Moſes* to other divine Writers; That our Deſcription is a Reality, both as to the Ante-diluvian Earth, and as to the Deluge, we may further be convinc'd from St. *Peter*'s Diſcourſe concerning thoſe two Things, 2 *Epiſt*. 3. 6. St. *Peter* ſaith, that the Conſtitution of the Ante-diluvian Earth was ſuch, in reference to the Waters, that by reaſon of that it was obnoxious to a Deluge; we ſay theſe Waters were the great Abyſs it ſtood upon, by reaſon whereof that World was really expos'd to a Deluge, and overwhelm'd in it upon the Diſruption of this Abyſs, as *Moſes* witneſſes. 'Tis true, St. *Peter* doth not ſpecify what thoſe Waters were, nor mention either the Sea, or the Abyſs; but ſeeing *Moſes* tells us, that it was by the Waters of the Abyſs that the Earth was overwhelm'd, St. *Peter*'s Waters muſt be underſtood of the ſame Abyſs, becauſe he ſuppoſeth them the Cauſe of the ſame Deluge. And, I think, the Apoſtle's Diſcourſe there cannot receive a better Illuſtration, than from *Moſes*'s Hiſtory of the Deluge. *Moſes* diſtinguiſhes the Cauſes of the Flood into thoſe that belong to the Heavens, and thoſe that belong to the Earth; the Rains and the Abyſs: St. *Peter* alſo diſtinguiſheth the Cauſes of the Deluge into the Conſtitution of the Heavens, in reference to its Waters; and the Conſtitution of the Earth, in reference to its Waters; and no doubt they both aim at the ſame Cauſes, as they refer to the ſame Effect, only *Moſes* mentions the immediate Cauſes, the Rains and the Waters of the Abyſs; and St. *Peter* mentions the more remote and fundamental Cauſes, that Conſtitution of the Heavens, and that Conſtitution of the Earth, in reference to their reſpective Waters, which made that World obnoxious to a Deluge: And theſe two ſpeaking of *Noah*'s Deluge, and agreeing thus with one another, and both with us, or with the Theory which we have given of a general Deluge, we may ſafely conclude,

that

that it is no imaginary Idea, but a true Account of that ancient Flood, whereof *Moſes* hath left us the Hiſtory.

And ſeeing the right Underſtanding of the *Moſaical* Abyſs is ſufficient alone to prove all we have deliver'd concerning the Deluge, as alſo concerning the Frame of the Ante-diluvian Earth, give me Leave to take Notice here of ſome other Places of Scripture, which we mention'd before, that ſeem manifeſtly to deſcribe this ſame Form of the Abyſs with the Earth above it, 2 *Eſdr.* 16. 58. *Pſal.* 24. 2. *He founded the Earth upon the Seas, and eſtabliſh'd it upon the Floods.* And *Pſal.* 136. 6. *He ſtretched out the Earth above the Waters.* Now this Foundation of the Earth upon the Waters, or Extenſion of it above the Waters, 2 *Eſdr. c.* 6. doth moſt aptly agree to that Structure and Situation of the Abyſs and the Ante-diluvian Earth, which we have aſſign'd them, and which we have before deſcrib'd; but very improperly and forcedly to the preſent Form of the Earth and the Waters. In that ſecond Place of the *Pſalmiſt*, the Word may be render'd either, he ſtretch'd, as we read it, or he fixt and conſolidated the Earth above the Waters, as the Vulgate and Septuagint tranſlate it: For 'tis from the ſame Word with that which is uſed for the Firmament, *Gen.* 1. So that as the Firmament was extended over and around the Earth, ſo was the Earth extended over and about the Waters, in that firſt Conſtitution of Things; and I remember ſome of the Ancients uſe this very Compariſon of the Firmament and

Earth, to expreſs the Situation of the paradiſiacal Earth in reference to the Sea or Abyſs.

There is another remarkable Place in the *Pſalms*; to ſhew the Diſpoſition of the Waters in the firſt Earth; *Pſal.* 33. 7. *He gathereth the Waters of the Sea as in a Bag, he layeth up the Abyſſes in Store-houſes.* This anſwers very fitly and naturally to the Place and Diſpoſition of the Abyſs which it had before the Deluge, incloſ'd within the Vault of the Earth, as in a Bag, or in a Store-houſe. I know very well what I render here in a Bag, is render'd in the *Engliſh, as an Heap*; but that Tranſlation of the Word ſeems to be grounded on the old Error, that the Sea is higher than the Land, and ſo doth not make a true Senſe. Neither are the two Parts of the Verſe ſo well ſuited and conſequent one to another, if the firſt expreſs an high Situation of the Waters, and the ſecond a low one. And accordingly the Vulgate, Septuagint, and Oriental Verſions and Paraphraſe, as alſo *Symmachus*, St. *Jerom*, and *Baſil*, render it as we do here, *in a Bag*, or by Terms equivalent.

To theſe Paſſages of the *Pſalmiſt*, concerning the Form of the Abyſs and the firſt Earth, give me leave to add this general Remark, that they are commonly uſher'd in, or followed, with ſomething of Admiration in the Prophet. We obſerv'd before, that the Formation of the firſt Earth, after ſuch a wonderful Manner, being a Piece of divine Architecture, when it was ſpoken of in Scripture, it was uſually aſcrib'd to a particular Providence, and accordingly we ſee in theſe Places now mention'd, that it is ſtill made the Object of Praiſe and Admiration: In that 136th *Pſalm* 'tis reckon'd among the Wonders of God, *Verſes* 4, 5, 6. *Give Praiſe to him who alone doth great Wonders; To him that by Wiſdom made the Heavens: To him that ſtretched out the Earth above the Waters.* And in like Manner, in that 33d *Pſalm*, 'tis join'd with the Forming of the Heavens, and made the Subject of the Divine Power and Wiſdom; *Verſes* 6, 7, 8, 9. *By the Word of the Lord were the Heavens made, and all the Hoſt of them by the Breath of his Mouth; He gathereth the Waters of the Sea together, as in a Bag, he layeth up the Abyſs in Store-houſes. Let all the Earth fear the Lord; Let all the Inhabitants of the World ſtand in awe of him; For he ſpake, and it was; he commanded, and it ſtood faſt.* Namely, all Things ſtood in that wonderful Poſture in which the Word of his Power and Wiſdom had eſtabliſh'd them. *David* often made the Works of Nature, and the external World, the Matter of his Meditations, and of his Praiſes and philoſophical Devotions; reflecting ſometimes upon the preſent Form of the World, and ſometimes upon the primitive Form of it: And tho' poetical Expreſſions, as the *Pſalms* are, ſeldom are ſo determinate and diſtinct, but that they may be interpreted more than one Way, yet, I think, it cannot but be acknowledg'd, that thoſe Expreſſions and Paſſages that we have inſtanc'd in, are more fairly and aptly underſtood of the ancient Form of the Sea, or the Abyſs, as it was incloſ'd within the Earth, than of the preſent Form of it in an open Channel.

There are alſo in the Book of *Job* many noble Reflections upon the Works of Nature, and upon the Formation of the Earth and the Abyſs; whereof that in *Chap.* 26. 7. *He ſtretcheth out the North over the empty Places, and hangeth the Earth upon nothing*, ſeems to parallel the Expreſſion of *David*; *He ſtretched out the Earth upon the Waters*; for the Word we render the *empty Place* is TOHU, which is apply'd to the Chaos and the firſt Abyſs, *Gen.* 1. 2. and the *hanging the Earth upon nothing* is much more wonderful, if it be underſtood of the firſt habitable Earth, that hung over the Waters, ſuſtain'd by nothing but its own peculiar Form, and the Libration of its Parts, than if it be underſtood of the preſent Earth, and the whole Body of it; for if it be in its Center or proper Place, whither ſhould it ſink further, or whither ſhould it go? But this Paſſage, together with the foregoing and following Verſes, requires a more critical Examination than this Diſcourſe will eaſily bear.

There is another remarkable Diſcourſe in *Job*, that contains many Things to our preſent Purpoſe, 'tis *Chap.* 38. where God reproaches *Job* with his Ignorance of what paſs'd at the beginning of the World, and the Formation of the Earth, *Verſes* 4, 5, 6. *Where waſt thou when I laid the Foundations of the Earth? Declare, if thou haſt Underſtanding. Who hath laid the Meaſures thereof, if thou knoweſt? or who hath ſtretched the Line upon it? Whereupon are the Foundations* *thereof faſtned? or who laid the Corner-ſtone?* All theſe Queſtions have far more Force and Emphaſis, more Propriety and Elegancy, if they be underſtood of the firſt and Ante-diluvian Form of the Earth, than if they be underſtood of the preſent; for in the preſent Form of the Earth there is no Architecture, no Structure, no more than in a Ruin; or at leaſt none comparatively to what was in the firſt Form of it. And that the exterior and ſuperficial Part of the Earth is here ſpoken of, appears by the Rule and Line apply'd to it; but what Rule or Regularity is there in the Surface of the preſent Earth? What Line was us'd to level its Parts? But in its original Conſtruction, when it lay ſmooth and regular in its Surface, as if it had been drawn by Rule and Line in every Part; and when it hung pois'd upon the Deep, without Pillar or Foundation-ſtone, then juſt Proportions were taken, and every Thing plac'd by Weight and Meaſure: And this, I doubt not, was that artificial Structure here alluded to; and when this Work was finiſh'd, then *The Morning Stars ſang together, and all the Sons of God ſhouted for Joy, Verſe* 7.

Thus far the Queſtions proceed upon the Form and Conſtruction of the firſt Earth; in the following *Verſes* (8, 9, 10, 11.) they proceed upon the Demolition of that Earth, the opening the Abyſs, and the preſent State of both. *Or who ſhut up the Sea with Doors when it brake forth, as if it had iſſu'd out of a Womb?* Who can doubt but this was at the breaking open of the *Fountains of the Abyſs? Gen.* 7. 11.

when the Waters guſh'd out, as out of the great Womb of Nature; and by reaſon of that Confuſion and Perturbation of Air and Water that roſe upon it, a thick Miſt and Darkneſs was round the Earth, and all Things as in a ſecond Chaos, *When I made the Cloud the Garment thereof, and thick Darkneſs a Swaddling-band for it, and brake up for it my decreed Place, and made Bars and Doors.* Namely, (taking the Words as thus uſually render'd) the preſent Channel of the Sea was made when the Abyſs was broke up, and at the ſame Time were made the ſhory Rocks and Mountains, which are the Bars and Boundaries of the Sea. *And ſaid hitherto ſhalt thou come, and no further, and here ſhall thy proud Waves be ſtay'd.* Which laſt Sentence ſhows, that this cannot be underſtood of the firſt Diſpoſition of the Waters, as they were before the Flood, for their proud Waves broke thoſe Bounds, whatſoever they were, when they overflow'd the Earth in the Deluge. And that the Womb which they broke out of was the great Abyſs, the *Chaldee* Paraphraſe in this Place doth expreſly mention; and what can be underſtood by תְהוּמָה מן, *the Womb of the Earth*, but that ſubterraneous Capacity in which the Abyſs lay? Then that which followeth is a Deſcription or Repreſentation of the great Deluge that enſu'd, and of that Diſorder in Nature that was then, and how the Waters were ſettled and bounded afterwards. Not unlike the Deſcription in the 104th *Pſalm, Verſes* 6, 7, 8, 9.

8, 9. And thus much for theſe Places in the Book of *Job.*

There remains a remarkable Diſcourſe in the *Proverbs* of *Solomon*, relating to the *Moſaical* Abyſs, and not only to that, but to the Origin of the Earth in general; where *Wiſdom* declares her Antiquity and Pre-exiſtence to all the Works of this Earth, *Chap.* 8. *Ver.* 23, 24, 25, 26, 27, 28. *I was ſet up from Everlaſting, from the Beginning, ere the Earth was. When there were no Deeps or Abyſſes, I was brought forth; when no Fountains abounding with Water.* Then in the 27th *Verſe, When he prepared the Heavens, I was there; when he ſet a Compaſs upon the Face of the Deep or Abyſs. When he eſtabliſhed the Clouds above, when he ſtrengthned the Fountains of the Abyſs.* Here is mention made of the Abyſs, and of the Fountains of the Abyſs; and who can queſtion, but that the Fountains of the Abyſs here, are the ſame with the Fountains of the Abyſs which *Moſes* mentions, and were broken open, as he tells us, at the Deluge? Let us obſerve therefore what Form *Wiſdom* gives to this Abyſs, and conſequently to the *Moſaical*: And here ſeem to be two Expreſſions that determine the Form of it, *Verſe* 28. *He ſtrengthned the Fountains of the Abyſs*, that is, the Cover of thoſe Fountains, for the Fountains could be ſtrengthned no other Way than by making a ſtrong Cover or Arch over them. And that Arch is expreſs'd more fully and diſtinctly in the foregoing *Verſe, When he prepar'd the Hea-*

vens, I was there; when he ſet a Compaſs *on the Face of the Abyſs*; we render it *Compaſs*, the Word ſignifies a Circle or Circumference, or an Orb or Sphere. So there was in the Beginning of the World a Sphere, Orb or Arch ſet round the Abyſs, according to the Teſtimony of *Wiſdom*, who was then preſent. And this ſhews us both the Form of the *Moſaical* Abyſs, which was included within this Vault: And the Form of the habitable Earth, which was the outward Surface of this Vault, or the Cover of the Abyſs that was broke up at the Deluge.

And thus much, I think, is ſufficient to have noted out of Scripture, concerning the *Moſaical* Abyſs, to diſcover the Form, Place, and Situation of it; which I have done the more largely, becauſe that being determin'd, it will draw in eaſily all the reſt of our Theory concerning the Deluge. I will now only add one or two general Obſervations, and ſo conclude this Diſcourſe: The firſt Obſervation is concerning the Abyſs; namely, That the *opening and ſhutting of the Abyſs*, is the great Hinge upon which Nature turns in this Earth: This brings another Face of Things, other Scenes, and a new World upon the Stage: And accordingly it is a Thing often mention'd and alluded to in Scripture, ſometimes in a natural, ſometimes in a moral or theological Senſe; and in both Senſes, our Saviour ſhuts and opens it as he pleaſeth. Our Saviour, who is both Lord of Nature and of Grace, whoſe Dominion is both in Heaven and in Earth, hath a double Key; that of the Abyſs, whereby Death and Hell are in his Power, and all the Revolutions of Nature are under his Conduct and Providence; and the Key of *David*, whereby he admits or excludes from the City of God, and the Kingdom of Heaven whom he pleaſeth, *Job* 11. 10, 12, 14. *Apoc.* 1. 18. 20. 1, 2, 3. 21. 1. *Apoc.* 3. 7. *Iſa.* 22. 22. Of thoſe Places that refer to the ſhutting and opening the Abyſs in a natural Senſe, I cannot but particularly take Notice of that in *Job*, *Chap.* 12. *Ver.* 14, 15. *& Chap.* 11. 10. *God breaketh down, and it cannot be built again: He ſhutteth up Man, and there can be no opening: Behold, he withholdeth the Waters, and they dry up; alſo he ſendeth them out, and they overturn the Earth.* Tho' theſe Things be true of God in leſſer and common Inſtances, yet to me it is plain, that they principally refer to the Deluge, the opening and ſhutting the Abyſs, with the Diſſolution or Subverſion of the Earth thereupon; and accordingly they are made the great Effects of the divine Power and Wiſdom in the 13th *Verſe* of *Chap.* 12. *With God is Wiſdom and Strength, he hath Counſel and Underſtanding; Behold, he breaketh down,* &c. And alſo in the Concluſion 'tis repeated again, *Verſe* 16. *With him is Strength and Wiſdom;* which Solemnity would ſcarce have been us'd for common Inſtances of his Power. When God is ſaid to build or pull down, and no Body can build again, 'tis not to be underſtood of an Houſe or a Town. God builds and unbuilds Worlds; and who ſhall build up that Arch that was broke down at the Deluge? Where ſhall they lay the Foundation, or how ſhall the Mountains be rear'd up again to make Part of the Roof? This is the Fabrick, which when God breaketh down, none can build up again. *He withholdeth the Waters, and they dry up:* As we ſhew'd the Earth to have been immoderately chap'd and parch'd before its Diſſolution. *He ſendeth them forth, and they overturn the Earth.* What can more properly expreſs the breaking out of the Waters at the Diſruption of the Abyſs, and the Subverſion or Diſſolution of the Earth in conſequence of it? 'Tis true, this laſt Paſſage may be applied to the breaking out of Waters in an ordinary Earthquake, and the Subverſion of ſome Part of the Earth, which often follows upon it; but it muſt be acknowledg'd, that the Senſe is more weighty, if it be refer'd to the great Deluge, and the great Earthquake which laid the World in Ruins and in Water. And philoſophical Deſcriptions in ſacred Writings, like Prophecies, have often a leſſer and a greater Accompliſhment and Interpretation.

I could not paſs by this Place without giving this ſhort Explication of it. We proceed now to the ſecond Obſervation, which is concerning the Style of Scripture, in moſt of thoſe Places we have cited, and others upon the ſame Subject. The Reflections that are made in ſeveral Parts of the divine Writings, upon the Origin of the World, and the Formation of the Earth, ſeem to me to be writ in a Style ſomething approaching to the Nature of a prophetical Style, and to have more of a divine Enthuſiaſm and Elocution in them, than the ordinary Text of Scripture; the Expreſſions are lofty, and ſometimes abrupt, and often figurative and diſguis'd, as may be obſerv'd in moſt of thoſe Places we have made uſe of, and particularly in that Speech of *Wiſdom*, *Prov.* 8. where the 26th *Verſe* is ſo obſcure, that no two Verſions that I have yet met with, whether ancient or modern, agree in the Tranſlation of that Verſe. And therefore, tho' I fully believe that the Conſtruction of the firſt Earth is really intended in thoſe Words; yet ſeeing it could not be made out clear without a long and critical Diſcuſſion of them, I did not think that proper to be inſiſted upon here. We may alſo obſerve, that whereas there is a double Form or Compoſition of the Earth, that which it had at firſt, or till the Deluge, and that which it hath ſince; ſometimes the one, and ſometimes the other may be glanc'd upon in theſe Scripture Phraſes and Deſcriptions; and ſo there may be in the ſame Diſcourſe an Intermixture of both. And it commonly happens ſo in an enthuſiaſtick or prophetick Style, that by reaſon of the Eagerneſs and Trembling of the Fancy, it doth not always regularly follow the ſame even Thread of Diſcourſe, but ſtrikes many times upon ſome other Thing that hath Relation to it, or lies under or near the ſame view. Of this we have frequent Examples in the *Apocalypſe*, and in that Prophecy of our Saviour's, *Matth.* 24. concerning the Deſtruction of *Jeruſalem*, and of the World.

But notwithſtanding any ſuch Unevenneſs or Indiſtinctneſs in the Style of thoſe Places which we have cited concerning the Origin and Form of the Earth, we may at leaſt make this Remark, that if there never was any other Form of the Earth but the preſent, nor any other State of the Abyſs, than what it is in now, 'tis not imaginable what ſhould give Occaſion to all thoſe Expreſſions and Paſſages that we have cited; which being ſo ſtrange in themſelves and paradoxical, ſhould yet ſo much favour, and ſo fairly comply with our Suppoſitions. What I have obſerv'd in another Place, *Tell. Theor. lib.* 2. *c.* 6. in treating of *Paradiſe*, that the Expreſſions of the ancient Fathers were very extravagant, if *Paradiſe* was nothing but a little Plot of Ground in *Meſopotamia*, as many of late have fancied, may in like Manner be obſerv'd concerning the ancient Earth and Abyſs, if they were in no other Form nor other State than what they are under now, the Expreſſions of the ſacred Writers concerning them are very ſtrange and unaccountable, without any ſufficient Ground, that we know, or any juſt Occaſion for ſuch uncouth Repreſentations. If there was nothing intended or refer'd to in thoſe Deſcriptions, but the preſent Form and State of the Earth, that is ſo well known, that in deſcribing of it there would be nothing dark or myſterious, nor any Occaſion for Obſcurity in the Style or Expreſſion, whereof we find ſo much in thoſe. So as, all Things conſider'd, what might otherwiſe be made an Exception to ſome of theſe Texts alledg'd by us, *viz.* that they are too obſcure, becomes an Argument for us: As implying that there is ſomething more intended by them than the preſent, and known Form of the Earth. And we having propos'd another Form and Structure of the Earth, to which thoſe Characters ſuit and anſwer more eaſily, as this opens and gives Light to thoſe difficult Places, ſo it may be reaſonably concluded to be the very Senſe and Notion intended by the holy Writers.

And thus much, I think, is ſufficient to have obſerv'd out of Scripture, to verify our Explication of the Deluge, and our Application of it to *Noah*'s Flood, both according to the *Moſaical* Hiſtory of the Flood, and according to many occaſional Reflections and Diſcourſes diſpers'd in other Places of Scripture, concerning the ſame Flood, or concerning the Abyſs and the firſt Form of the Earth. And though there may be ſome other Paſſages of a different Aſpect, they will be of no Force to diſprove our Concluſions, becauſe they reſpect the preſent Form of the Earth and Sea; and alſo, becauſe Expreſſions that deviate more from the common Opinion, are more remarkable and more proving; in that there is nothing could give Occaſion to ſuch, but an Intention to expreſs the very Truth. So, for inſtance, if there was one Place of Scripture that ſaid *the Earth was mov'd*, and ſeveral that ſeem'd to imply, that the *Sun* was mov'd, we ſhould have more regard to that one Place for the Motion of the Earth, than to all the other that made againſt it; becauſe thoſe others might be ſpoken and underſtood according to common Opinion and common Belief, but that which affirm'd the Motion of the Earth, could not be ſpoke upon any other Ground, but only for Truth and Inſtruction-ſake. I leave this to be apply'd to the preſent Subject.

Thus much for the ſacred Writings. As to the Hiſtory of the ancient Heathens, we cannot expect an Account or Narration of *Noah*'s Flood, under that Name and Notion; but it may be of uſe to obſerve two Things out of that Hiſtory. Firſt, that the Inundations recorded there came generally to paſs in the Manner we have deſcrib'd the univerſal Deluge; namely, by Earthquakes and an Eruption of ſubterraneous Waters, the Earth being broken and falling in: And of this we ſhall elſewhere give a full Account out of their Authors. Secondly, that *Deucalion*'s Deluge in particular, which is ſuppos'd by moſt of the ancient Fathers to repreſent *Noah*'s Flood, is ſaid to have been accompanied with a gaping or Diſruption of the Earth. *Apollodorus* ſaith, *Bibl. lib.*1. that the Mountains of *Theſſaly* were divided aſunder, or ſeparate one from another at that time: And *Lucian* (*De Dea Syria*) tells a very remarkable Story to this purpoſe, concerning *Deucalion*'s Deluge, and a Ceremony obſerv'd in the Temple of *Hieropolis*, in Commemoration of it; which Ceremony ſeems to have been of that Nature, as imply'd that there was an opening of the Earth at the Time of the Deluge, and that the Waters ſubſided into that again when the Deluge ceas'd. He ſaith, that this Temple at *Hieropolis* was built upon a kind of Abyſs, or had a bottomleſs Pit, or gaping of the Earth in one Part of it; and the People of *Arabia* and *Syria*, and the Countries thereabouts, twice a Year repair'd to this Temple, and brought with them every one a Veſſel of Water, which they pour'd out upon the Floor of the Temple, and made a kind of an Inundation there in Memory of *Deucalion*'s Deluge; and this Water ſunk by Degrees into a Chaſm or opening of a Rock, which the Temple ſtood upon, and ſo left the Floor dry again. And this was a Rite ſolemnly and religiouſly perform'd both by the Prieſts and by the People. If *Moſes* had left ſuch a religious Rite among the *Jews*, I ſhould not have doubted to have interpreted it concerning his Abyſs, and the retiring of the Waters into it; but the actual Diſruption of the Abyſs could not well be repreſented by any Ceremony. And thus much concerning the preſent Queſtion, and the true Application of our Theory to *Noah*'s Flood.

CHAP. VIII.

The particular Hiſtory of Noah's *Flood is explained in all the material Parts and Circumſtances of it, according to the preceding Theory. Any ſeeming Difficulties removed, and the whole Section concluded, with a Diſcourſe how far the Deluge may be look'd upon as the Effect of an ordinary Providence, and how far of an extraordinary.*

WE have now proved our Explication of the Deluge to be more than an *Idea*, or to be a true Piece of natural Hiſtory; and it may be the greateſt and moſt remarkable that hath yet been ſince the Beginning of the World. We have ſhown it to be the real Account of *Noah*'s Flood, according to Authority both divine and humane; and I would willingly proceed one ſtep further, and declare my Thoughts concerning the Manner and Order wherein *Noah*'s Flood came to paſs; in what Method all thoſe Things happen'd and ſucceeded one another, that make up the Hiſtory of it, as Cauſes or Effects, or other Parts or Circumſtances: As how the Ark was born upon the Waters, what Effect the Rains had, at what Time the Earth broke, and the Abyſs was open'd; and what the Condition of the Earth was upon the ending of the Flood, and ſuch like. But I deſire to propoſe my Thoughts concerning theſe Things only as Conjectures, which I will ground as near as I can upon Scripture and Reaſon, and am very willing they ſhould be rectify'd where they happen to be amiſs. I know how ſubject we are to Miſtakes in theſe great and remote Things, when we deſcend to Particulars; but I am willing to expoſe the Theory to a full Trial, and to ſhew the Way for any to examine it, provided they do it with Equity and Sincerity. I have no other Deſign than to contribute my Endeavours to find out the Truth in a Subject of ſo great Importance, and wherein the World hath hitherto had ſo little Satisfaction: And he that in an obſcure Argument propoſeth an *Hypotheſis* that reacheth from End to End, though it be not exact in every Particular, 'tis not without a good Effect; for it gives Aim to others to take their Meaſures better, and opens their Invention in a Matter which otherwiſe, it may be, would have been impenetrable to them: As he that makes the firſt Way thro' a thick Foreſt, tho' it be not the ſtreighteſt and ſhorteſt, deſerves better, and hath done more than he that makes it ſtreighter and ſmoother afterwards.

Providence that ruleth all things and all Ages, after the Earth had ſtood above ſixteen hundred Years, thought fit to put a Period to that World; and accordingly, it was reveal'd to *Noah*, that for the Wickedneſs and Degeneracy of Men, God would deſtroy Mankind with the *Earth* (*Gen.* 6. 13.) in a Deluge of Water; whereupon he was commanded, in order to the preſerving of himſelf and Family, as a Stock for the new World, to build a great

Veſſel or Ark, to float upon the Waters, and had Inſtructions given him for the Building of it both as to the Matter and as to the Form. *Noah* believed the Word of God, though againſt his Senſes, and all external Appearances, and ſet himſelf to work to build an Ark, according to the Directions given, which after many Years Labour was finiſh'd; whilſt the incredulous World, ſecure enough, as they thought, againſt a Deluge, continu'd ſtill in their Exceſſes and Inſolencies, and laught at the Admonition of *Noah*, and at the Folly of his Deſign of building an extravagant Machine, a Floating Houſe, to ſave himſelf from an imaginary Inundation; for they thought it no leſs, ſeeing it was to be in an Earth where there was no Sea, nor any Rain neither in thoſe Parts, according to the ordinary Courſe of Nature; as ſhall be ſhown in the ſecond Book of this Treatiſe.

But when the appointed time was come, the Heavens began to melt, and the Rains to fall, and theſe were the firſt ſurprizing Cauſes and Preparatives to the Deluge; They fell, we ſuppoſe, (tho' we do not know how that could proceed from natural Cauſes) throughout the Face of the whole Earth; which could not but have a conſiderable Effect on that Earth, being even and ſmooth, without Hills and Eminencies, and might lay it all under Water to ſome depth; ſo as the Ark, if it could not float upon thoſe Rain-waters, at leaſt taking the Advantage of a River, or of a Dock or Ciſtern made to receive them, it might be afloat before the Abyſs was broken open. For I do not ſuppoſe the Abyſs broken open before any Rain fell; and when the opening of the Abyſs and of the Flood-gates of Heaven are mention'd together, I am apt to think thoſe Floodgates were diſtinct from the common Rain, and were ſomething more violent and impetuous. So that there might be preparatory Rains before the Diſruption of the Abyſs: and I do not know but thoſe Rains, ſo covering up and encloſing the Earth on every ſide, might providentially contribute to the Diſruption of it; not only by ſoftning and weakning the Arch of the Earth in the bottom of thoſe Cracks and Chaſms which were made by the Sun, and which the Rain would firſt run into, but eſpecially by ſtopping on a ſudden all the Pores of the Earth, and all Evaporation, which would make the Vapours within ſtruggle more violently, as we get a Fever by a Cold; and it may be in that ſtruggle, the Doors and the Bars were broke, and the great Abyſs guſht out, as out of a Womb.

However, when the Rains were faln, we may ſuppoſe the Face of the Earth cover'd over with Water; and whether it was theſe Waters that St. *Peter* refers to, or that of the Abyſs afterwards, I cannot tell, when he ſaith in his firſt Epiſtle, *Chap.* 3. 20. *Noah* and his Family *were ſav'd by Water*; ſo as the Water which deſtroy'd the reſt of the World, was an Inſtrument of their Conſervation, in as much as it bore up the Ark, and kept it from that impetuous ſhock, which it would have had, if either it had ſtood upon dry Land when the Earth fell, or if the Earth had been diſſolv'd without any Water on it or under it. However, Things being thus prepar'd, let us ſuppoſe the great Frame of the exteriour Earth to have broke at this time, or the Fountains of the great Abyſs, as *Moſes* ſaith, to have been then open'd, from thence would iſſue, upon the Fall of the Earth, with an unſpeakable Violence, ſuch a Flood of Waters as would over-run and overwhelm for a Time all thoſe Fragments which the Earth broke into, and bury in one common Grave all Mankind, and all the Inhabitants of the Earth. Beſides, if the *Flood-gates* of Heaven were any thing diſtinct from the Forty Days Rain, their Effuſion, 'tis likely, was at this ſame time when the Abyſs was broken open; for the ſinking of the Earth would make an extraordinary Convulſion of the Regions of the Air, and that Crack and Noiſe that muſt be in the Falling World, and in the Colliſion of the Earth and the Abyſs, would make a great and univerſal Concuſſion above, which things together muſt needs ſo ſhake, or ſo ſqueeze the Atmoſphere, as to bring down all the remaining Vapours; But the Force of theſe Motions not being equal throughout the whole Air, but drawing or preſſing more in ſome Places than in other, where the Center of the Convulſion was, there would be the chiefeſt Collection, and there would fall, not Showers of Rain, or ſingle Drops, but great Spouts or Caſcades of Water; and this is that which *Moſes* ſeems to call, not improperly, the *Cataracts* of Heaven, or the *Windows of Heaven being ſet open.*

Thus the Flood came to its height; and 'tis not eaſy to repreſent to our ſelves this ſtrange Scene of things, when the Deluge was in its Fury and Extremity; when the Earth was broken and ſwallow'd up in the Abyſs, whoſe raging Waters riſe higher than the Mountains, and fill'd the Air with broken Waves, with an univerſal Miſt, and with thick Darkneſs, ſo as Nature ſeem'd to be in a ſecond Chaos; and upon this Chaos rid the diſtreſt Ark, that bore the ſmall Remains of Mankind. No Sea was ever ſo tumultuous, as this, nor is there any thing in preſent Nature to be compar'd with the Diſorder of theſe Waters; all the Poetry, and all the Hyperboles that are us'd in the Deſcription of Storms and raging Seas, were literally true in this, if not beneath it. The Ark was really carry'd to the tops of the higheſt Mountains, and into the Places of the Clouds, and thrown down again into the deepeſt Gulfs; and to this very ſtate of the Deluge and of the Ark, which was a Type of the Church in this World, *David* ſeems to have alluded in the name of the Church, *Pſal.* 42. 7. *Abyſs calls upon Abyſs at the Noiſe of thy Cataracts or Water-ſpouts; all thy Waves and Billows have gone over me.* It was no doubt an extraordinary and miraculous Providence, that could make a Veſſel, ſo ill man'd, live upon ſuch a Sea; that kept it from being daſht againſt the Hills, or overwhelm'd in the Deeps. That Abyſs which had devour'd and ſwallow'd up

Fig: 8.

Book 1.

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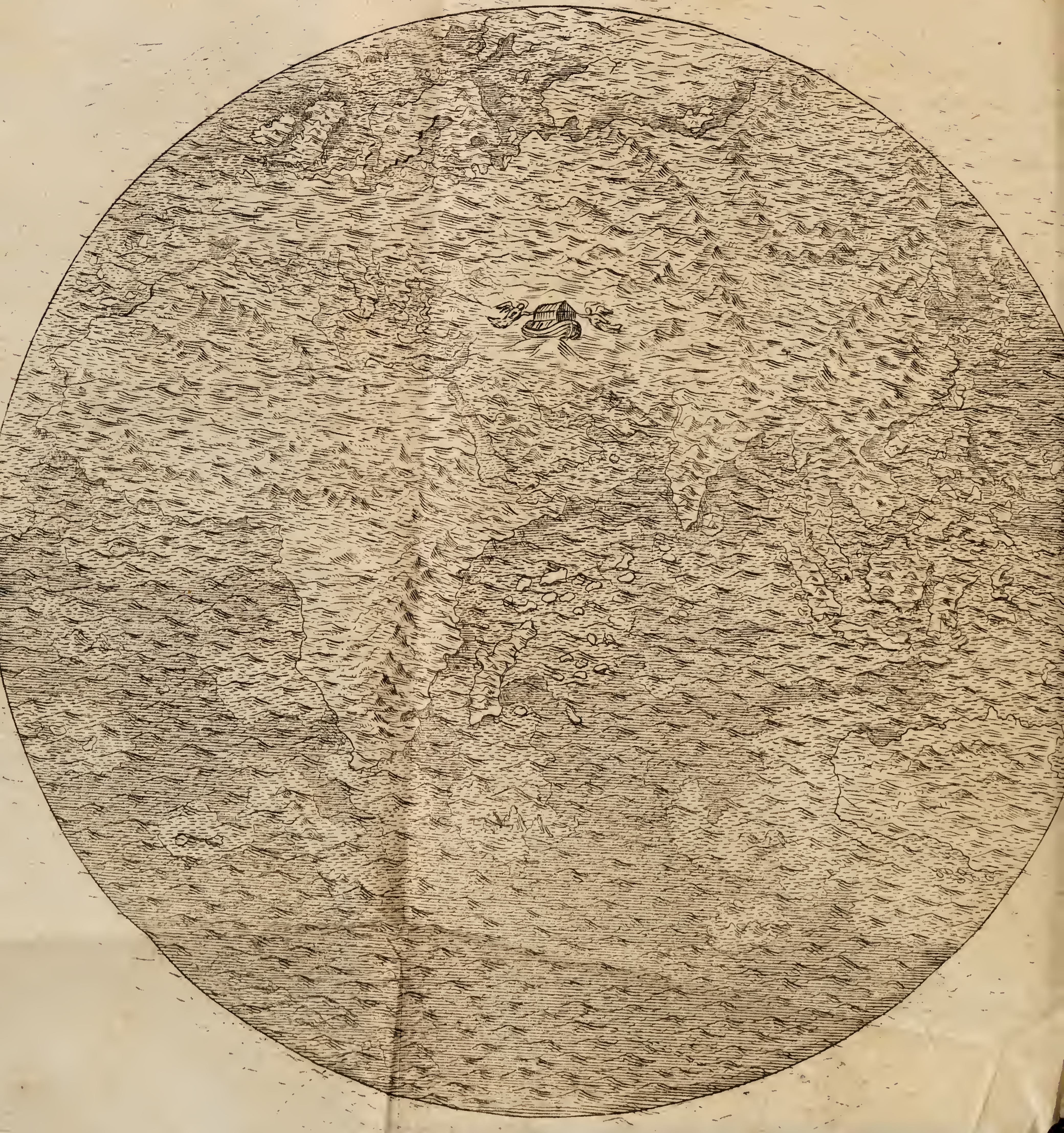


up whole Foreſts of Woods, Cities, and Provinces, nay the whole Earth, when it had conquer'd all, and triumph'd over all, could not deſtroy this ſingle Ship. I remember in the Story of the *Argonauticks*, *Dion. Argonaut. l.* 1. *v.* 47. when *Jaſon* ſet out to fetch the Golden Fleece, the Poet ſaith, all the Gods that Day look'd down from Heaven to view the Ship; and the *Nymphs* ſtood upon the Mountain-tops to ſee the noble Youth of *Theſſaly* pulling at the Oars; we may with more Reaſon ſuppoſe the good Angels to have look'd down upon this Ship of *Noah*'s; and that not out of Curioſity, as idle Spectators, but with a paſſionate Concern for its Safety and Deliverance. A Ship, whoſe Cargo was no leſs than a whole World; that carry'd the Fortune and Hopes of all Poſterity, and if this had periſh'd, the Earth for any thing we know had been nothing but a Deſart, a great Ruin, a dead heap of Rubbiſh, from the Deluge to the Conflagration. But Death and Hell, the Grave, and Deſtruction have their Bounds. We may entertain our ſelves with the Conſideration of the Face of the Deluge, and of the broken and drown'd Earth, in this Scheme, with the floating Ark, and the guardian Angels.

Thus much for the Beginning and Progreſs of the Deluge. It now remains only that we conſider it in its Decreaſe, and the State of the Earth after the Waters were retir'd into their Channels, which makes the preſent State of it. *Moſes* ſaith, God brought a Wind upon the

Waters, and the tops of the Hills became bare, and then the lower Grounds and Plains by degrees; the Waters being ſunk into the Channels of the Sea, and the Hollowneſs of the Earth, and the whole Globe appearing in the Form it is now under. There needs nothing be added for Explication of this, 'tis the genuine Conſequence of the Theory we have given of the Deluge; and whether this Wind was a deſcending Wind to depreſs and keep down the Swellings and Inequalities of the Abyſs, or whether it was only to dry the Land as faſt as it appear'd, or might have both Effects, I do not know; but as nothing can be perpetual that is violent, ſo this Commotion of the Abyſs abated after a certain time, and the great Force that impell'd the Waters decreaſing, their natural Gravity began to take Effect, and to reduce them into the loweſt Places, at an equal height, and in an even Surface, and level one Part with another: That is, in ſhort, the Abyſs became our Sea, fixt within its Channel, and bounded by Rocks and Mountains: *Then was the decreed Place eſtabliſht for it, and Bars and Doors were ſet; then was it ſaid, hitherto ſhalt thou come, and no further, and here ſhall thy proud Waves be ſtopt. Job* 38. 10, 11. And the Deluge being thus ended, and the Waters ſettled in their Channels, the Earth took ſuch a broken Figure as is repreſented in thoſe larger Schemes, *p.* 100. And this will be the Form and State of it till its great Change comes in the Conflagration, when we expect *a new Heaven and a new Earth.*

But to purſue this Proſpect of Things a little further; we may eaſily imagine, that for many Years after the Deluge ceas'd, the Face of the Earth was very different from what it is now, and the Sea had other Bounds than it hath at preſent. I do not doubt but the Sea reach'd much further in-land, and clim'd higher upon the Sides of the Mountains; and I have obſerv'd in many Places a Ridge of Mountains ſome Diſtance from the Sea, and a Plain from their Roots to the Shore; which Plain no doubt was formerly cover'd by the Sea, bounded againſt thoſe Hills as its firſt and natural Ramparts, or as the Ledges or Lips of its Veſſel. And it ſeems probable, that the Sea doth ſtill grow narrower from Age to Age, and ſinks more within its Channel and the Bowels of the Earth, according as it can make its Way into all thoſe ſubterraneous Cavities, and crowd the Air out of them. We ſee whole Countries of Land gain'd from it, and by ſeveral Indications, as ancient Seaports left dry and uſeleſs, old Sea-marks far within the Land, Pieces of Ships, Anchors, *&c.* left at a great Diſtance from the preſent Shores; from theſe Signs, and ſuch like, we may conclude that the Sea reach'd many Places formerly that now are dry Land, and at firſt I believe was generally bound in on either Side with a Chain of Mountains. So I ſhould eaſily imagine the Mediterranean Sea, for inſtance, to have been bounded by the Continuation of the *Alps* through *Dauphine* and *Languedock* to the *Pyreneans*, and at the other End by the *Dar-*

matick Mountains almoſt to the Black Sea. Then *Atlas major*, which runs along with the Mediterranean from *Ægypt* to the *Atlantick* Ocean, and now parts *Barbary* and *Numidia*, may poſſibly have been the ancient Barrier on the *Africk* Side. And in our own Iſland I could eaſily figure to my ſelf, in many Parts of it, other Sea-bounds than what it hath at preſent; and the like may be obſerv'd in other Countries.

And as the Sea had much larger Bounds for ſome Time after the Deluge, ſo the Land had a different Face in many Reſpects to what it hath now; for we ſuppoſe the Valleys and lower Grounds, where the Deſcent and Derivation of the Water was not ſo eaſy, to have been full of Lakes and Pools for a long Time; and theſe were often converted into Fens and Bogs, where the Ground being ſpungy, ſuck'd up the Water, and the looſen'd Earth ſwell'd into a ſoft and pappy Subſtance; which would ſtill continue ſo, if there was any Courſe of Water ſenſible or inſenſible, above or within the Ground, that fed this moiſt Place: But if the Water ſtood in a more firm Baſin, or on a Soil, which for its Heavineſs or any other Reaſon would not mix with it, it made a Lake or clear Pool. And we may eaſily imagine there were innumerable ſuch Lakes, and Bogs and Faſtneſſes for many Years after the Deluge, till the World begun to be pretty well ſtock'd with People, and humane Induſtry cleanſed and drained thoſe unfruitful and unhabitable Places. And thoſe Countries that have been later cultivated, or by a lazier People, retain ſtill, in Proportion to their Situation and Soil, a greater Number of them.

Neither is it at all incongruous or inconvenient to ſuppoſe, that the Face of the Earth ſtood in this Manner for many Years after the Deluge; for while Mankind was ſmall and few, they needed but a little Ground for their Seats or Suſtenance; and as they grew more numerous, the Earth proportionably grew more dry, and more Parts of it fit for Habitation. I eaſily believe that *Plato*'s Obſervation or Tradition [*de Leg. li.* 3.] is true, that Men at firſt, after the Flood, liv'd in the Up-lands and Sides of the Mountains, and by Degrees ſunk into the Plains and lower Countries, when Nature had prepar'd them for their Uſe, and their Numbers requir'd more Room. The Hiſtory of *Moſes*, *Gen.* 11. tells us, that ſome Time after the Deluge, *Noah* and his Poſterity, his Sons and his Grand-children, chang'd their Quarters, and fell down into the Plains of *Shiner*, from the Sides of the Hills where the Ark had reſted; and in this Plain was the laſt general Rendezvous of Mankind; ſo long they ſeem to have kept in a Body, and from thence they were divided and broken into Companies, and diſpers'd, firſt, into the neighbouring Countries, and then by degrees throughout the whole Earth; the ſeveral ſucceſſive Generations, like the Waves of the Sea when it flows, over-reaching one another, and ſtriking out further and further upon the Face of the Land. Not that the whole Earth was peopled by an uniform Propagation of Mankind every Way, from one Place, as a common Center; like the Swelling of a Lake upon a Plain: For ſometimes they ſhot out in length, like Rivers, and ſometimes they flew into remote Countries in Colonies, like Swarms from the Hive, and ſettled there, leaving many Places uninhabited betwixt them and their firſt Home. Sea-ſhores and Iſlands were generally the laſt Places inhabited; for while the Memory or Story of the Deluge was freſh amongſt them, they did not care for coming ſo near their late Enemy; or at leaſt, to be incloſ'd and ſurrounded by his Forces.

And this may be ſufficient to have diſcours'd concerning all the Parts of the Deluge, and the Reſtitution of the Earth to an habitable Form, for the further Union of our Theory with the Hiſtory of *Moſes*; there reſts only one Thing in that Hiſtory to be taken notice of, which may be thought poſſibly not to agree ſo well with our Account of the Deluge; namely, that *Moſes* ſeems to ſhut up the Abyſs again at the End of the Deluge, which our Explication ſuppoſeth to continue open. But beſides that Half the Abyſs is ſtill really cover'd, *Moſes* ſaith the ſame Thing of the Windows of Heaven, that they were ſhut up too; and he ſeemeth in both to expreſs only the Ceſſation of the Effect which proceeded from their opening: For as *Moſes* had aſcrib'd the Deluge to the opening of theſe two, ſo when it was to ceaſe, he ſaith, theſe two were ſhut up; as they were really put into ſuch a Condition,

dition, both of them, that they could not continue the Deluge any longer, nor ever be the Occaſion of a ſecond; and therefore in that Senſe, and as to that Effect were for ever ſhut up. Some may poſſibly make that alſo an Objection againſt us, that *Moſes* mentions and ſuppoſes the Mountains at the Deluge, for he ſaith, the Waters reached fifteen Cubits above the Tops of them; whereas we ſuppoſe the Antediluvian Earth to have had a plain and uniform Surface, without any Inequality of Hills and Valleys. But this is eaſily anſwer'd, it was in the Height of the Deluge that *Moſes* mention'd the Mountains, and we ſuppoſe them to have riſen then, or more towards the Beginning of it, when the Earth was broke; and theſe Mountains continuing ſtill upon the Face of the Earth, *Moſes* might very well take them for a Standard to meaſure and expreſs to Poſterity the Height of the Waters, though they were not upon the Earth when the Deluge begun. Neither is there any mention made, as is obſerv'd by ſome, of Mountains in Scripture, or of Rain, till the Time of the Deluge.

We have now finiſh'd our Account of *Noah*'s Flood, both generally and particularly; and I have not wittingly omitted or conceal'd any Difficulty that occur'd to me, either from the Hiſtory, or from abſtract Reaſon: Our Theory, ſo far as I know, hath the Conſent and Authority of both: And how far it agrees and is demonſtrable from natural Obſervation, or from the Form and *Phænomena* of this Earth, as it lies at preſent, ſhall be the Subject of the remaining Part of this firſt Book. In the mean time I do not know any Thing more to be added in this Part, unleſs it be to conclude with an Advertiſement to prevent any Miſtake or Miſconſtruction, as if this Theory, by explaining the Deluge in a natural Way, in a great Meaſure, or, by natural Cauſes, did detract from the Power of God, by which that great Judgment was brought upon the World in a providential and miraculous Manner.

To ſatisfy all reaſonable and intelligent Perſons in this Particular, I anſwer and declare, firſt, That we are far from excluding divine Providence, either ordinary or extraordinary, from the Cauſes and Conduct of the Deluge. I know a Sparrow doth not fall to the Ground without the Will of our heavenly Father, much leſs doth the great World fall in pieces without his good Pleaſure and Superintendency. In him all Things live, move, and have their Being; Things that have Life and Thought have it from him, he is the Fountain of both: Things that have Motion only, without Thought, have it alſo from him: And what hath only naked Being, without Thought or Motion, owe ſtill that Being to him. And theſe are not only deriv'd from God at firſt, but every Moment continued and conſerv'd by him. So intimate and univerſal is the Dependance of all Things upon the divine Will and Power.

In the ſecond Place, they are guilty, in my Judgment, of a great Error or Indiſcretion, that oppoſe the Courſe of Nature to Providence. St. *Paul* ſays (*Acts* 14. 17.) God hath not left us without Witneſs, in that he gives us Rain from Heaven; yet Rains proceed from natural Cauſes, and fall upon the Sea as well as upon the Land. In like manner, our Saviour, *Matt.* 6. 21. makes thoſe Things Inſtances of divine Providence, which yet come to paſs in an ordinary Courſe of Nature; in that Part of his excellent Sermon upon the Mount, *Luke* 12. 24. that concerns Providence, he bids them *Conſider the Lillies how they grow, they toil not, neither do they ſpin, and yet* Solomon *in all his Glory was not array'd like one of theſe:* He bids them alſo *conſider the Ravens, they neither ſow nor reap, neither have they Storehouſe nor Barn, and God feedeth them.* The Lillies grow, and the Ravens are fed according to the ordinary Courſe of Nature, and yet they are juſtly made Arguments of Providence by our Saviour; nor are theſe Things leſs providential, becauſe conſtant and regular; on the contrary, ſuch a Diſpoſition or Eſtabliſhment of ſecond Cauſes, as will in the beſt Order, and for a long Succeſſion, produce the moſt regular Effects, aſſiſted only with the ordinary Concourſe of the firſt Cauſe, is a greater Argument of Wiſdom and Contrivance, than ſuch a Diſpoſition of Cauſes as will not in ſo good an Order, or for ſo long a Time produce regular Effects, without an extraordinary Concourſe and Interpoſition of the firſt Cauſe. This, I think, is clear to every Man's Judgment. We think him a better Artiſt that makes a Clock that ſtrikes regularly at every Hour from the Springs and Wheels which he puts in the Work, than he that hath ſo made his Clock that he muſt put his Finger to it every Hour to make it ſtrike: And if one ſhould contrive a Piece of Clock-work ſo that it ſhould beat all the Hours, and make all its Motions regularly for ſuch a Time, and that Time being come, upon a Signal given, or a Spring touch'd, it ſhould of its own accord fall all to pieces; would not this be look'd upon as a Piece of greater Art, than if the Workman came at that Time prefix'd, and with a great Hammer beat it into pieces? I uſe theſe Compariſons to convince us, that it is no Detraction from divine Providence, that the Courſe of Nature is exact and regular, and that even in its greateſt Changes and Revolutions it ſhould ſtill conſpire and be prepar'd to anſwer the Ends and Purpoſes of the divine Will in reference to the moral World. This ſeems to me to be the great Art of divine Providence, ſo to adjuſt the two Worlds, humane and natural, material and intellectual, as ſeeing thro' the Poſſibilities and Futuritions of each, according to the firſt State and Circumſtances he puts them under, they ſhould all along correſpond and fit one another, and eſpecially in their great Criſes and Periods.

Thirdly, Beſides the ordinary Providence of God in the ordinary Courſe of Nature, there is doubtleſs an extraordinary Providence that doth attend the greater Scenes and the greater Revolutions of Nature. This, methinks, beſides all other Proof from the Effects, is very rational and neceſſary in itſelf; for it would be a Limitation of the divine Power and Will ſo to be bound up to ſecond Cauſes, as never to uſe, upon Occaſion, an extraordinary Influence or Direction: And 'tis manifeſt, taking any Syſtem of natural Cauſes, if the beſt poſſible, that there may be more and greater Things done, if to this, upon certain Occaſions, you join an extraordinary Conduct. And as we have taken Notice before, that there was an extraordinary Providence in the Formation or Compoſition of the firſt Earth, ſo I believe there was alſo in the Diſſolution of it: And I think it had been impoſſible for the Ark to have liv'd upon the raging Abyſs, or for *Noah* and his Family to have been preſerv'd, if there had not been a miraculous Hand of Providence to take care of them. But 'tis hard to ſeparate and diſtinguiſh an ordinary and extraordinary Providence in all Caſes, and to mark juſt how far one goes, and where the other begins. And writing a Theory of the Deluge here, as we do, we were to exhibit a Series of Cauſes whereby it might be made intelligible, or to ſhew the proximate natural Cauſes of it; wherein we follow the Example both of *Moſes* and St. *Peter*; and with the ſame Veneration of the divine Power and Wiſdom in the Government of Nature, by a conſtant ordinary Providence, and an occaſional extraordinary.

So much for the Theory of the Deluge, and the ſecond Section of this Diſcourſe.

CHAP. IX.

The ſecond Part of this Diſcourſe, proving the ſame Theory from the Effects and preſent Form of the Earth. Firſt, by a general Scheme of what is moſt remarkable in this Globe, and then by a more particular Induction; beginning with an Account of ſubterraneous Cavities and ſubterraneous Waters.

WE have now finiſh'd our Explication of the univerſal Deluge, and given an Account, not only of the Poſſibility of it, but (ſo far as our Knowledge can reach) of its Cauſes; and of that Form and Structure of the Earth, whereby the *Old World* was ſubject to that ſort of Fate. We have not beg'd any Principles or Suppoſitions for the Proof of this; but taking that common Ground, which both *Moſes* and all Antiquity preſent to us, *viz. That this Earth roſe from a Chaos:* We have from that deduc'd, by an eaſy Train of Conſequences, what the firſt Form of it would be; and from that Form, as from a nearer Ground, we have by a ſecond Train of Conſequences made it appear, that at ſome Time or other that firſt Earth would be ſubject to a Diſſolution, and by that Diſſolution to a Deluge. And thus far we have proceeded only by the Intuition of Cauſes, as is moſt proper to a Theory; but for the Satiſfaction of thoſe that require more ſenſible Arguments, and to compleat our Proofs on either hand, we will now argue from the Effects; and from the preſent State of Nature, and the preſent Form of the Earth, prove that it hath been broken, and undergone ſuch a Diſſolution as we have already deſcrib'd, and made the immediate Occaſion of the Deluge. And that we may do this more perſpicuouſly and diſtinctly, we will lay down this Propoſition to be prov'd, *viz. That the preſent Form and Structure of the Earth, both as to the Surface and as to the interior Parts of it, ſo far as they are known and acceſſible to us, doth exactly anſwer to our Theory concerning the Form and Diſſolution of the firſt Earth, and cannot be explain'd upon any other Hypotheſis yet known.*

Orators and Philoſophers treat Nature after a very different Manner; thoſe repreſent her with all her Graces and Ornaments, and if there be any Thing that is not capable of that, they diſſemble it, or paſs it over ſlightly. But Philoſophers view Nature with a more impartial Eye, and without Favour or Prejudice give a juſt and free Account, how they find all the Parts of the Univerſe, ſome more, ſome leſs perfect. And as to this Earth in particular, if I was to deſcribe it as an Orator, I would ſuppoſe it a beautiful and regular Globe; and not only ſo, but that the whole Univerſe was made for its ſake; that it was the Darling and Favourite of Heaven, that the Sun ſhin'd only to give it Light, to ripen its Fruit, and make freſh its Flowers; and that the great

Concave of the Firmament, and all the Stars in their ſeveral Orbs, were deſign'd only for a ſpangled Cabinet to keep this Jewel in. This *Idea* I would give of it as an Orator; but a Philoſopher that overheard me, would either think me in Jeſt, or very injudicious, if I took the Earth for a Body ſo regular in it ſelf, or ſo conſiderable, if compar'd with the reſt of the Univerſe. This, he would ſay, is to make the great World like one of the Heathen Temples, a beautiful and magnificent Structure, and of the richeſt Materials, yet built only for a little brute Idol, a Dog, or a Crocodile, or ſome deformed Creature, plac'd in a Corner of it.

We muſt therefore be impartial where the Truth requires it, and deſcribe the Earth as it is really in it ſelf; and though it be handſome and regular enough to the Eye in certain Parts of it, ſingle Tracks and ſingle Regions; yet if we conſider the whole Surface of it, or the whole Exterior Region, 'tis as a broken and confus'd Heap of Bodies, plac'd in no Order to one another, nor with any Correſpondency or Regularity of Parts: And ſuch a Body as the Moon appears to us, when 'tis look'd upon with a good Glaſs, rude and ragged; as it is alſo repreſented in the modern Maps of the Moon; ſuch a Thing would the Earth appear if it was ſeen from the Moon. They are both in my Judgment the Image or Picture of a great Ruin, and have the true Aſpect of a World lying in its rubbiſh. *See Fig.* in *Chap.* 11.

Our Earth is firſt divided into Sea and Land, without any Regularity in the Portions, either of the one or the other; in the Sea lie the Iſlands, ſcatter'd like Limbs torn from the reſt of the Body; great Rocks ſtand rear'd up in the Waters; The Promontories and Capes ſhoot into the Sea, and the Sinus's and Creeks on the other hand run as much into the Land; and theſe without any Order or Uniformity. Upon the other Part of our Globe ſtand great Heaps of Earth or Stone, which we call Mountains; and if theſe were all plac'd together, they would take up a very conſiderable part of the dry Land; In the reſt of it are leſſer Hills, Valleys, Plains, Lakes and Marſhes, Sands and Deſarts, *&c.* and theſe alſo without any regular Diſpoſition. Then the Inſide of the Earth, or inward Parts of it, are generally broken or hollow, eſpecially about the Mountains and high Lands, as alſo towards the Shores of the Sea, and among the Rocks. How many Holes and Caverns, and ſtrange ſubterraneous Paſſages do we ſee in many Countries? and how many more may we eaſily imagine, that are unknown and unacceſſible to us?

This is the Pourtraicture of our Earth, drawn without Flattery; and as oddly as it looks, it will not be at all ſurprizing to one that hath conſider'd the foregoing Theory; For 'tis manifeſt enough, that upon the Diſſolution of the firſt Earth, and its Fall into the Abyſs, this very Face and Poſture of Things, which we have now deſcrib'd, or ſomething extreamly like it, would immediately reſult. The Sea would be open'd, and the Face of the Globe would be divided into Land and Water: And according as the Fragments fell, ſome would make Iſlands or Rocks in the Sea, others would make Mountains or Plains upon the Land; and the Earth would generally be full of Caverns and Hollowneſſes, eſpecially in the mountainous Parts of it. And we ſee the Reſemblance and Imitation of this in leſſer Ruins, when a Mountain ſinks and falls into ſubterraneous Water; or which is more obvious, when the Arch of a Bridge is broken, and falls into the Water, if the Water under it be not ſo deep as to overflow and cover all its Parts, you may ſee there the Image of all theſe things in little Continents, and Iſlands, and Rocks under Water: And in the Parts that ſtand above the Water, you ſee Mountains, and Precipices, and Plains, and moſt of the Varieties that we ſee and admire in the Parts of the Earth. What need we then ſeek any further for the Explication of theſe things? Let us ſuppoſe this Arch of the Bridge, as the great Arch of the Earth, which once it had, and the Water under it as the Abyſs, and the Parts of this Ruin to repreſent the Parts of the Earth: There will be ſcarce any Difference but of leſſer and greater, the ſame things appearing in both. But we have naturally that Weakneſs or Prejudice, that we think great things are not to be explain'd from eaſy and familiar Inſtances; We think there muſt be ſomething difficult and operoſe in the Explication of them, or elſe we are not ſatisfied; whether it is that we are aſhamed to ſee our Ignorance and Admiration to have been ſo groundleſs, or whether we fancy there muſt be a Proportion between the Difficulty of the Explication, and the Greatneſs of the thing explain'd; but that is a very falſe Judgment, for let Things be never ſo great, if they be ſimple, their Explication muſt be ſimple and eaſy: And on the contrary, ſome things that are mean, common, and ordinary, may depend upon Cauſes very difficult to find out; for the Difficulty of explaining an Effect doth not depend upon its Greatneſs or Littleneſs, but upon the Simplicity or Compoſition of its Cauſes. And the Effects and *Phænomena* we are here to explain, though great, yet depending upon Cauſes very ſimple, you muſt not wonder if the Explication, when found out, be familiar and very intelligible.

And this is ſo intelligible, and ſo eaſily deducible from the forementioned Cauſes, that a Man born blind or brought up all his Life in a Cave, that had never ſeen the Face of the Earth, nor ever heard any Deſcription of it, more than that it was a great Globe, having this Theory propos'd to him, or being inſtructed what the Form of the firſt Earth was, how it ſtood over the Waters, and then how it was broke and fell into them, he would eaſily of his own accord foretel what Changes would ariſe upon this Diſſolution; and what the new Form of the Earth would be. As in the firſt place he would tell you, that this ſecond Earth would be diſtinguiſh'd and checker'd into Land and Water; for the Orb which fell being greater than the Circumference it fell upon, all the Fragments could not fall flat and lie drown'd under Water; and thoſe that ſtood above, would make the dry Land or habitable part of the Earth. Then in the ſecond Place, he would plainly diſcern that theſe Fragments that made the dry Land, could not lie all plain and ſmooth and equal, but ſome would be higher and ſome lower, ſome in one Poſture and ſome in another, and conſequently would make Mountains, Hills, Valleys and Plains, and all other Varieties we have in the Situation of the Parts of the Earth. And laſtly, a blind Man would eaſily divine that ſuch a great Ruin could not happen but there would be a great many Holes and Cavities amongſt the Parts of it, a great many Intervals and empty Places in the rubbiſh, as I may ſo ſay; for this we ſee happens in all Ruins more or leſs; and where the Fragments are great and hard, 'tis not poſſible they ſhould be ſo adjuſted in their Fall, but that they would lie hollow in many Places, and many unfill'd Spaces would be intercepted amongſt them; ſome gaping in the Surface of the Earth, and others hid within; ſo as this would give occaſion to all ſorts of Fractures and Cavities either in the Skin of the Earth, or within its Body. And theſe Cavities, that I may add that in the laſt Place, would be often fill'd with ſubterraneous Waters, at leaſt at ſuch a depth; for the Foundations of the Earth ſtanding now within the Waters, ſo high as thoſe Waters reach'd they would more or leſs propagate themſelves every way.

Thus far our blind Man could tell us what the new World would be, or the Form of the Earth upon the great Diſſolution; and we find his Reaſonings and Inferences very true, theſe are the chief Lineaments and Features of our Earth; which appear indeed very irregular and very unaccountable when they are lookt upon naked in themſelves; but if we look upon them through this Theory, we ſee as in a Glaſs all the Reaſons and Cauſes of them. There are different Genius's of Men, and different Conceptions, and every one is to be allow'd their Liberty as to things of this Nature; I confeſs, for my own part, when I obſerve how eaſily and naturally this *Hypotheſis* doth apply it ſelf to the general Face of this Earth, hits and falls in ſo luckily and ſurprizingly with all the odd Poſtures of its Parts, I cannot, without Violence, bear off my Mind from fully aſſenting to it: And the more odd and extravagant, as I may ſo ſay, and the more diverſify'd the Effects and Appearances are, to which an *Hypotheſis* is to be apply'd, if it anſwers them all and with Exactneſs, it comes the nearer to a moral Certitude and Infallibility. As a Lock that conſiſts of a great deal of Workmanſhip, many Wards, and many odd Pieces and Contrivances, if you find a Key that anſwers to them all, and opens it readily, 'tis a thouſand to one that 'tis the true Key, and was made for that purpoſe.

An eminent Philoſopher of this Age, *Monſieur des Cartes*, hath made uſe of the like *Hypotheſis* to explain the irregular Form of the preſent Earth; though he never dream'd of the Deluge, nor thought that firſt Orb, built over the Abyſs, to have been any more than a tranſient Cruſt, and not a real habitable World that laſted for more than ſixteen hundred Years, as we ſuppoſe it to have been. And though he hath, in my Opinion, in the Formation of that firſt Orb, and upon the Diſſolution of it, committed ſome great Overſights, whereof we have given an Account in the *Latin* Treatiſe, *C.* 7. *& lib.* 2. *c.* 4. however he ſaw a Neceſſity of ſuch a Thing, and of the Diſruption of it, to bring the Earth into that Form and Poſture wherein we now find it.

Thus far we have ſpoken in general concerning the Agreement and Congruity of our Suppoſition with the preſent Face of the Earth, and the eaſy Account it gives of the Cauſes of it. And though I believe to ingenuous Perſons that are not prejudic'd by the Forms and Opinions of the Schools againſt every thing that looks like a Novelty or Invention, thus much might be ſufficient; yet for the Satisfaction of all, we will, as a farther Proof of our Theory, or that part of it which concerns the Diſſolution of the Earth, deſcend to a particular Explication of three or four of the moſt conſiderable and remarkable things that occur in the Fabrick of this preſent Earth; namely, *The great Channel of the Ocean*; *Subterraneous Cavities and Subterraneous Waters*; and laſtly, *Mountains and Rocks.* Theſe are the Wonders of the Earth as to the viſible Frame of it; and who would not be pleas'd to ſee a rational Account of theſe, of their Origin, and of their Properties? Or who would not approve of an *Hypotheſis*, when they ſee that Nature in her greateſt and ſtrangeſt Works may eaſily be underſtood by it, and is in no other way, that we know of, intelligible?

We will ſpeak firſt of ſubterraneous Cavities and Waters, becauſe they will be of eaſier Diſpatch, and an Introduction to the reſt.

That the Inſide of the Earth is hollow and broken in many Places, and is not one firm and united Maſs, we have both the Teſtimony of Senſe and of eaſy Obſervations to prove: How many Caves and Dens and hollow Paſſages into the Ground do we ſee in many Countries, eſpecially amongſt Mountains and Rocks; and ſome of them endleſs and bottomleſs ſo far as can be diſcover'd? We have many of theſe in our own Iſland, in *Derbyſhire*, *Somerſetſhire*, *Wales*, and other Counties, and in every Continent or Iſland they abound more or leſs. Theſe Hollowneſſes of the Earth the Ancients made Priſons, or Store-houſes for the Winds, and ſet a God over them to confine them, or let them looſe at his Pleaſure. For ſome Ages after the Flood, as all Antiquity tells us, Theſe were the firſt Houſes Men had, at leaſt in ſome Parts of the Earth; here rude Mortals ſhelter'd themſelves, as well as they could, from the Injuries of the Air, till they were beaten out by wild Beaſts that took Poſſeſſion of them. The ancient Oracles alſo us'd to be given out of theſe Vaults and Receſſes under Ground, the *Sibyls* had their Caves, and the

Delphick Oracle, and their Temples ſometimes were built upon an hollow Rock. Places that are ſtrange and ſolemn ſtrike an Awe into us, and incline us to a kind of ſuperſtitious Timidity and Veneration, and therefore they thought them fit for the Seats and Reſidences of their Deities. They fancied alſo that Steams riſe ſometimes, or a ſort of Vapour in thoſe hollow Places, that gave a kind of divine Fury or Inſpiration. But all theſe Uſes and Employments are now in a great meaſure worn out, we know no Uſe of them but to make the Places talk'd on where they are, to be the Wonders of the Country, to pleaſe our Curioſity to gaze upon and admire; but we know not how they came, nor to what purpoſe they were made at firſt.

It would be very pleaſant to read good Deſcriptions of theſe ſubterraneous Places, and of all the ſtrange Works of Nature there; how ſhe furniſheth theſe dark neglected Grotto's; they have often a little Brook runs murmuring thro' them, and the Roof is commonly a kind of petrefied Earth or icy Fret-work, proper enough for ſuch Rooms. But I ſhould be pleas'd eſpecially to view the Sea-caves, or thoſe hollow Rocks that lie upon the Sea, where the Waves roll in a great Way under Ground, and wear the hard Rock into as many odd Shapes and Figures as we ſee in the Clouds. 'Tis pleaſant alſo to ſee a River in the Middle of its Courſe throw itſelf into the Mouth of a Cave, or an Opening of the Earth, and run under Ground ſometimes many Miles;

ſtill purſuing its Way thro' the dark Pipes of the Earth, till at laſt it find an Out-let. There are many of theſe Rivers taken Notice of in Hiſtory in the ſeveral Parts of the Earth, as the *Rhone* in *France*, *Guadiana* in *Spain*, and ſeveral in *Greece*, *Alpheus*, *Lycus*, and *Eraſinus*; then *Niger* in *Africa*, *Tygris* in *Aſia*, *&c.* And I believe if we could turn *Derwent*, or any other River, into one of the Holes of the Peak, it would groap its Way till it found an Iſſue, it may be, in ſome other County. Theſe ſubterraneous Rivers that emerge again, ſhew us that the Holes of the Earth are longer and reach further than we imagine, and if we could ſee into the Ground, as we ride or walk, we ſhould be affrighted to ſee ſo often Waters or Caverns under us.

But to return to our dry Caves; theſe commonly ſtand high, and are ſometimes of a prodigious Greatneſs: *Strabo* [*Geo. l.* 16.] mentions ſome in the Mountains towards *Arabia*, that are capable to receive four thouſand Men at once. The Cave of *Engedi* [1 *Sam.* 24. 3, 4.] hid *David* and ſix hundred Men, ſo as *Saul*, when he was in the Mouth of it, did not perceive them. In the Mountains of the *Traconites* there are many of theſe vaſt Dens and Receſſes, and the People of that Country defended themſelves a long time in thoſe ſtrong Holds againſt *Herod* and his Army: They are plac'd among ſuch craggy Rocks and Precipices, that, as *Joſephus* [*Ant. Jud. l.* 14. *ch.* 27.] tells us, *Herod* was forced to make a ſort of open Cheſts, and in thoſe by Chains of Iron he let down his Soldiers from the Top of the Mountains to go fight them in their Dens. I need add no more Inſtances of this Kind: In the natural Hiſtory of all Countries, or the geographical Deſcriptions of them, you find ſuch Places taken notice of, more or leſs; yet if there was a good Collection made of the chief of them in ſeveral Parts, it might be of uſe, and would make us more ſenſible how broken and torn the Body of the Earth is.

There are ſubterraneous Cavities of another Nature, and more remarkable, which they call *Volcano's*, or fiery Mountains; that belch out Flames and Smoke and Aſhes, and ſometimes great Stones and broken Rocks, and Lumps of Earth, or ſome metallick Mixture; and throw them to an incredible Diſtance by the Force of the Eruption. Theſe argue great Vacuities in the Bowels of the Earth, and Magazines of combuſtible Matter treaſur'd up in them. And as the Exhalations within theſe Places muſt be copious, ſo they muſt lie in long Mines or Trains to do ſo great Execution, and to laſt ſo long. 'Tis ſcarce credible what is reported concerning ſome Eruptions of *Veſuvius* and *Ætna*. The Eruptions of *Veſuvius* ſeem to be more frequent and leſs violent of late; the Flame and Smoke break out at the Top of the Mountain, where they have eaten away the Ground and made a great Hollow, ſo as it looks at the Top, when you ſtand upon the Brims of it, like an *Amphitheatre*, or like a great Caldron, about a Mile in Circumference, and the burning Furnace lies under it.

The Outſide of the Mountain is all ſpread with Aſhes, but the Inſide much more; for you wade up to the Mid-leg in Aſhes to go down to the Bottom of the Cavity, and 'tis extremely heavy and troubleſome to get up again. The Inſide lies ſloping, and one may ſafely go down, if it be not in a raging Fit; but the middle Part of it, or Center, which is a little rais'd like the Bottom of a Platter, is not to be ventur'd upon, the Ground there lies falſe and hollow, there it always ſmoaks, and there the Funnel is ſuppos'd to be; yet there is no viſible Hole or Gaping any where when it doth not rage. *Naples* ſtands below in fear of this fiery Mountain, which hath often cover'd its Streets and Palaces with its Aſhes; and in Sight of the Sea (which lies by the Side of them both) and as it were in Defiance to it, threatens at one time or another to burn that fair City. Hiſtory tells us, that ſome Eruptions of *Veſuvius* have carry'd Cinders and Aſhes as far as *Conſtantinople*; this is atteſted both by *Greek* and *Latin* Authors; particularly, that they were ſo affrighted with theſe Aſhes and Darkneſs, that the Emperor left the City, and there was a Day obſerv'd yearly for a Memorial of this Calamity or Prodigy.

Ætna is of greater Fame than *Veſuvius*, and of greater Fury, all Antiquity ſpeaks of it; not only the *Greeks* and *Romans*, but as far as Hiſtory reacheth, either real or fabulous, there is ſomething recorded of the Fires of *Ætna*. The Figure of the Mountain is inconſtant, by reaſon of the great Conſumptions and Ruins it is ſubject to; the Fires and Æſtuations of it are excellently deſcrib'd by *Virgil*, upon Occaſion of *Æneas's* paſſing by thoſe Coaſts.

—— Horrificis juxta tonat Ætna *ruinis;*
Interdumque atram prorumpit ad æthera nubem,
Turbine fumantem piceo & candente ſavilla;
Attollitque globos flammarum & ſydera lambit;
Interdum ſcopulos, avolſaque viſcera Montis
Erigit eructans, liquefactaque ſaxa ſub auras
Cum gemitu glomerat, fundoque exæſtuat imo.

Fama eſt Enceladi *ſemuſtum fulmine corpus*
Urgeri mole hac, ingentemque inſuper Ætnam
Impoſitam, ruptis flammam expirare caminis.
Et feſſum quoties mutet latus, intremere omnem
Murmure Trinacriam *& cœlum ſubtexere fumo.*

——Ætna, *whoſe Ruins make a thunder;*
Sometimes black Clouds of Smoak, that rowl about
Mingled with Flakes of Fire, it belches out.
And ſometimes Balls of Flame it darts on high,
Or its torn Bowels flings into the Sky.
Within deep Cells under the Earth, a Store
Of Fire-materials, molten Stones, and Ore,
It gathers, then ſpews out, and gathers more.

Enceladus, *when Thunder-ſtruck by* Jove,
Was bury'd here, and Ætna *thrown above;*
And when, to change his wearied Side, he turns,
The Iſland trembles and the Mountain burns.

Not far from *Ætna* lies *Strombolo*, and other adjacent Iſlands, where there are alſo ſuch Magazines of Fire; and throughout all Regions and Countries in the *Weſt-Indies* and in the *Eaſt*, in the northern and ſouthern Parts of the Earth, there are ſome of theſe *Volcano's*, which are ſenſible Evidences that the Earth is incompact and full of Caverns; beſides, the roarings and bellowings that uſe to be heard before an Eruption of theſe *Volcano's*, argue ſome dreadful Hollowneſs in the Belly, or under the Roots of the Mountain, where the Exhalations ſtruggle before they can break their Priſon.

The ſubterraneous Cavities that we have ſpoke of hitherto, are ſuch as are viſible in the Surface of the Earth, and break the Skin by ſome gaping Orifice; but the Miners and thoſe that work under Ground meet with many more in the Bowels of the Earth, that never reach to the Top of it; Burrows and Channels, and Clifts and Caverns, that never had the Comfort of one Beam of Light ſince the great Fall of the Earth. And where we think the Ground is firm and ſolid, as upon Heaths and Downs, it often betrays its Hollowneſs, by ſounding under the Horſes Feet and the Chariot-wheels that paſs over it. We do not know when and where we ſtand upon good Ground, if it was examin'd deep enough; and to make us further ſenſible of this, we will inſtance in two Things that argue the Unſoundneſs and Hollowneſs of the Earth in the inward Receſſes of it, tho' the Surface be in-

tire

tire and unbroken; theſe are *Earthquakes* and the Communication of *ſubterraneous Waters and Seas*: Of which two we will ſpeak a little more particularly.

Earthquakes are too evident Demonſtrations of the Hollowneſs of the Earth, being the dreadful Effects or Conſequences of it; for if the Body of the Earth was ſound and compact, there would be no ſuch Thing in Nature as an Earthquake. They are commonly accompanied with an heavy dead Sound, like a dull Thunder which ariſeth from the Vapours that are ſtriving in the Womb of Nature when her Throws are coming upon her. And that theſe Caverns where the Vapours lie are very large and capacious, we are taught ſometimes by ſad Experience; for whole Cities and Countries have been ſwallow'd up into them, as *Sodom* and *Gomorrha*, and the Region of *Pentapolis*, and ſeveral Cities in *Greece*, and in *Aſia*, and other Parts. Whole Iſlands alſo have been thus abſorpt in an Earthquake; the Pillars and Props they ſtood upon being broken, they have ſunk and faln in as an Houſe blown up. I am alſo of Opinion that thoſe Iſlands that are made by Divulſion from a Continent, as *Sicily* was broken off from *Italy*, and *Great-Britain*, as ſome think, from *France*, have been made the ſame Way; that is, the Iſthmus or Necks of Land, that join'd theſe Iſlands with their Continents before, have been hollow, and being either worn by the Water, or ſhak'd by an Earthquake, have ſunk down, and ſo made Way for the Sea to overflow them, and of a

Promontory to make an Iſland. For it is not at all likely that the Neck of Land continu'd ſtanding, and the Sea overflow'd it, and ſo made an Iſland; for then all thoſe Paſſages between ſuch Iſlands, and their reſpective Continents would be extremely ſhallow and unnavigable, which we do not find them to be. Nor is it any more Wonder if ſuch a Neck of Land ſhould fall, than that a Mountain ſhould ſink, or any other Tract of Land, and a Lake riſe in its Place, which hath often happen'd. *Plato* ſuppoſeth his *Atlantis* to have been greater than *Aſia* and *Africa* together, and yet to have ſunk all into the Sea; whether that be true or no, I do not think it impoſſible that ſome Arms of the Sea or Sinus's might have had ſuch an Original as that; and I am very apt to think, that for ſome Years after the Deluge, till the Fragments were well ſettled and adjuſted, great Alterations would happen as to the Face of the Sea and the Land; many of the Fragments would change their Poſture, and many would ſink into the Water that ſtood out before, the Props failing that bore them up, or the Joints and Corners whereby they lean'd upon one another: And thereupon a new Face of Things would ariſe, and a new Deluge for that Part of the Earth. Such Removes and Interchanges, I believe, would often happen in the firſt Ages after the Flood; as we ſee in all other Ruins there happen leſſer and ſecondary Ruins after the firſt, till the Parts be ſo well pois'd and ſettled, that without ſome Violence they ſcarce change their Poſture any more.

But to return to our Earthquakes, and to give an Inſtance or two of their Extent and Violence: *Pliny* mentions one in the Reign of *Tiberius Cæſar* that ſtruck down twelve Cities of *Aſia* in one Night. And *Fournier* gives us an Account of one in *Peru*, that reach'd three hundred Leagues along the Sea-ſhore, and ſeventy Leagues In-land; and level'd the Mountains all along as it went, threw down the Cities, turn'd the Rivers out of their Channels, and made an univerſal Havock and Confuſion: And all this, he ſaith, was done within the Space of ſeven or eight Minutes. There muſt be dreadful Vaults and Mines under that Continent, that gave Paſſage to the Vapours, and Liberty to play for nine hundred Miles in length, and above two hundred in breadth. *Aſia* alſo hath been very ſubject to theſe Deſolations by Earthquakes; and many Parts in *Europe*, as *Greece*, *Italy*, and others. The Truth is, our Cities are built upon Ruins, and our Fields and Countries ſtand upon broken Arches and Vaults, and ſo does the greateſt Part of the outward Frame of the Earth, and therefore it is no Wonder if it be often ſhaken; there being Quantities of Exhalations within theſe Mines, or cavernous Paſſages, that are capable of Rarefaction and Inflammation; and, upon ſuch Occaſions, requiring more Room, they ſhake or break the Ground that covers them. And thus much concerning Earthquakes.

A ſecond Obſervation that argues the Hollowneſs of the Earth, is the Communication of the Seas and Lakes under Ground. The *Caſpian* and *Mediterranean* Seas, and ſeveral Lakes, receive into them great Rivers, and yet have no viſible Out-let: Theſe muſt have ſubterraneous Out-lets, by which they empty themſelves, otherwiſe they would redound and overflow the Brims of their Veſſel. The *Mediterranean* is moſt remarkable in this Kind, becauſe 'tis obſerv'd that at one End the great Ocean flows into it thro' the Straits of *Gibraltar*, with a ſenſible Current, and towards the other End about *Conſtantinople* the *Pontus* flows down into it with a Stream ſo ſtrong,that Veſſels have much ado to ſtem it; and yet it neither hath any viſible Evacuation or Out-let, nor overflows its Banks. And beſides that it is thus fed at either End, it is fed by the Navel too, as I may ſo ſay; it ſucks in, by their Channels, ſeveral Rivers into its Belly, whereof the *Nile* is one very great and conſiderable. Theſe Things have made it a great Problem, *What becomes of the Water of the Mediterranean Sea?* And for my Part, I think, the Solution is very eaſy, namely, that it is diſcharg'd by ſubterraneous Paſſages, or convey'd by Channels under the Ground into the Ocean. And this Manner of Diſcharge or Conveyance is not peculiar to the *Mediterranean*, but is common to it with the *Caſpian* Sea, and other Seas and Lakes, that receive great Rivers into them, and have no viſible Iſſue.

I know there have been propos'd ſeveral other Ways to anſwer this Difficulty concerning the Efflux or Conſumption of the Waters of the *Mediterranean*; ſome have ſuppos'd a double Current in the Strait of *Gibraltar*, one that carry'd the Water in, and another that brought it out; like the Arteries and Veins in our Body, the one exporting our Blood from the Heart, and the other re-importing it: So they ſuppos'd one Current upon the Surface, which carry'd the Water into the *Mediterranean*, and under it at a certain Depth a Counter-current, which brought the Water back into the Ocean. But this hath neither Proof nor Foundation; for unleſs it was included in Pipes, as our Blood is, or conſiſted of Liquors very different, theſe croſs Currents would mingle and deſtroy one another. Others are of Opinion, that all the Water that flows into the *Mediterranean*, or a Quantity equal to it, is conſum'd in Exhalations every Day: This ſeems to be a bolder Suppoſition than the other; for if ſo much be conſum'd in Vapours and Exhalations every Day as flows into this Sea, what if this Sea had an Out-let, and diſcharg'd by that, every Day, as much as it receiv'd? in a a few Days the Vapours would have conſum'd all the reſt; and yet we ſee many Lakes that have as free an Out-let as an In-let, and are not conſum'd, or ſenſibly diminiſh'd by the Vapours. Beſides, this Reaſon is a Summer Reaſon, and would paſs very ill in Winter, when the Heat of the Sun is much leſs powerful: At leaſt there would be a very ſenſible Difference betwixt the Height of the Waters in Summer and Winter, if ſo much was conſum'd every Day, as this Explication ſuppoſeth. And the Truth is, this want of a viſible Outlet is not a Property belonging only to the *Mediterranean* Sea, as we noted before, but is alſo in other Seas and great Lakes, ſome lying in one Climate, and ſome in another, where there is no Reaſon to ſuppoſe ſuch exceſſive Exhalations; and tho' 'tis true ſome Rivers in *Africk*, and in other Parts of the Earth, are thus exhal'd and dry'd up, without ever flowing into the Sea (as were all the Rivers in the firſt Earth) yet this is where the Sands and parch'd Ground ſuck up a great Part of them; the Heat of the Climate being exceſſively ſtrong, and the Channel of the River growing ſhallower by Degrees, and, it may be, divided into leſſer Branches and Rivulets; which are Cauſes that take no Place here. And therefore we muſt return to our firſt Reaſon, which is univerſal, for all Seaſons of the Year and all Climates; and ſeeing we are aſſur'd that there are ſubterraneous Channels and Paſſages, for Rivers often fall into the Ground, and ſometimes riſe again, and ſometimes never return; why ſhould we doubt to aſcribe this Effect to ſo obvious a Cauſe? Nay, I believe the very Ocean doth evacuate itſelf by ſubterraneous Out-lets; for conſidering what a prodigious Maſs of Water falls into it every Day from the wide Mouths of all the Rivers of the

Earth, it muſt have Out-lets proportionable; and thoſe *Syrtes* or great Whirlpools that are conſtant in certain Parts or Sinus's of the Sea, as upon the Coaſt of *Norway* and of *Italy*, ariſe probably from ſubterraneous Out-lets in thoſe Places, whereby the Water ſinks, and turns, and draws into it whatſoever comes within ſuch a Compaſs; and if there was no Iſſue at the Bottom, tho' it might by contrary Currents turn Things round within its Sphere, yet there is no Reaſon from that why it ſhould ſuck them down to the Bottom. Neither does it ſeem improbable, that the Currents of the Sea are from theſe In-draughts, and that there is always a ſubmarine In-let in ſome Part of them, to make a Circulation of the Waters. But thus much for the ſubterraneous Communication of Seas and Lakes.

And thus much in general concerning ſubterraneous Cavities, and concerning the hollow and broken Frame of the Earth. If I had now Magick enough to ſhow you at one View all the Inſide of the Earth, which we have imperfectly deſcrib'd; if we could go under the Roots of the Mountains, and into the Sides of the broken Rocks; or could dive into the Earth with one of thoſe Rivers that ſink under Ground, and follow its Courſe and all its Windings till it riſe again, or led us to the Sea, we ſhould have a much ſtronger and more effectual *Idea* of the broken Form of the Earth, than any we can excite by theſe faint Deſcriptions collected from Reaſon. The Ancients

cients I remember us'd to repreſent theſe hollow Caves and ſubterraneous Regions in the Nature of a *World* under Ground, and ſuppos'd it inhabited by the *Nymphs*, eſpecially the *Nymphs* of the Waters and the Sea-Goddeſſes; ſo *Orpheus* ſung of old; and in Imitation of him *Virgil* hath made a Deſcription of thoſe Regions; feigning the Nymph *Cyrene* to ſend for her Son to come down to her, and make her a Viſit in thoſe Shades where Mortals were not admitted.

Duc age, duc ad nos, fas illi limina Divum
Tangere, ait: Simul alta jubet diſcedere late
Flumina, qua juvenis greſſus inferret, at illum
Curvata in montis faciem circumſtitit unda,
Accepitque ſinu vaſto, miſitque ſub amnem.
Jamq; domum mirans Genetricis & humida regna,
Speluncıſque lacos clauſos, lucoſque ſonantes,
Ibat, & ingenti motu ſtupefactus aquarum
Omnia ſub magna labentia flumina terra
Spectabat diverſa locis; Phaſimque Licumque, &c.
Et Thalami matris pendentia pumice tecta, &c.
Virgil.

Come lead the Youth below, bring him to me,
The Gods are pleas'd our Manſions he ſhould ſee;
Streight ſhe commands the Floods to make him Way,
They open their wide Boſom and obey;
Soft is the Path, and eaſy is his Tread,
A watry Arch bends o'er his dewy Head;
And as he goes he wonders, and looks round,
To ſee this new-found Kingdom under Ground.

The ſilent Lakes in hollow Caves he ſees,
And on their Banks an echoing Grove of Trees;
The Fall of Waters 'mongſt the Rocks below
He hears, and ſees the Rivers how they flow:
All the great Rivers of the Earth are there,
Prepar'd, as in a Womb, by Nature's Care.
Laſt, to his Mother's Bed-chamber he's brought,
Where the high Roof with Pumice-ſtone is
(wrought, &c.

If we now could open the Earth as this *Nymph* did the Water, and go down into the Boſom of it; ſee all the dark Chambers and Apartments there, how ill contriv'd, and how ill kept; ſo many Holes and Corners, ſome fill'd with Smoak and Fire, ſome with Water, and ſome with Vapours and mouldy Air; how like a Ruin it lies gaping and torn in the Parts of it; We ſhould not eaſily believe that God created it into this Form immediately out of nothing: It would have coſt no more to have made Things in better Order; nay, it had been more eaſy and more ſimple: and accordingly we are aſſured that all Things were made at firſt in Beauty and Proportion. And if we conſider Nature and the Manner of the firſt Formation of the Earth, 'tis evident that there could be no ſuch Holes and Caverns, nor broken Pieces, made then in the Body of it; for the groſſer Parts of the Chaos falling down towards the Center, they would there compoſe a Maſs of Earth uniform and compact, the Water ſwimming above it; and this firſt

Maſs under the Water could have no Caverns or Vacuities in it; for if it had any, the earthy Parts, while the Maſs was liquid or ſemi-liquid, would have ſunk into them and fill'd them up, expelling the Air or Water that was there; and when afterwards there came to be a Cruſt or new Earth form'd upon the Face of the Waters, there could be no Cavities, no Dens, no Fragments in it, no more than in the other; and for the ſame general Reaſon, *that is*, paſſing from a liquid Form into a concrete or ſolid, leaſurely and by degrees, it would flow and ſettle together in an entire Maſs; there being nothing broken, nor any Thing hard, to bear the Parts off from one another, or to intercept any empty Spaces between them.

'Tis manifeſt then that the Earth could not be in this cavernous Form originally, by any Work of Nature, nor by any immediate Action of God, ſeeing there is neither Uſe nor Beauty in this kind of Conſtruction. Do we not then, as reaſonably, as aptly, aſcribe it to that Deſolation that was brought upon the Earth in the general Deluge, when its outward Frame was diſſolv'd and fell into the great Abyſs? How eaſily doth this anſwer all that we have obſerv'd concerning the ſubterraneous Regions? That hollow and broken Poſture of Things under Ground, all thoſe Caves and Holes, and blind Receſſes, that are otherwiſe ſo unaccountable, ſay but that they are a *Ruin*, and you have in one Word explain'd plain'd them all. For there is no ſort of Cavities, interior or exterior, great or little, open or ſhut, wet or dry, of what Form or Faſhion ſoever, but we might reaſonably expect them in a Ruin of that Nature. And as for the ſubterraneous Waters, ſeeing the Earth fell into the Abyſs, the Pillars and Foundations of the preſent (exterior) Earth muſt ſtand immers'd in Water, and therefore at ſuch a Depth from the Surface every where, there muſt be Water found, if the Soil be of a Nature to admit it. 'Tis true, all ſubterraneous Waters do not proceed from this Original, for many of them are the Effects of Rains and melted Snows ſunk into the Earth; but that in digging any where you conſtantly come to Water at length, even in the moſt ſolid Ground; this cannot proceed from theſe Rains or Snows, but muſt come from below, and from a Cauſe as general as the Effect is; which can be no other in my Judgment than this, that the Roots of the exterior Earth ſtand within the old Abyſs, whereof, as a great Part lies open in the Sea, ſo the reſt lies hid and cover'd among the Fragments of the Earth; ſometimes diſpers'd and only moiſtning the Parts, as our Blood lies in the Fleſh, and in the Habit of the Body; ſometimes in greater or leſſer Maſſes, as the Blood in our Veſſels. And this I take to be the true Account of ſubterraneous Waters as diſtinguiſh'd from Fountains and Rivers, and from the Matter and Cauſes of them.

Thus much we have ſpoke to give a general *Idea* of the inward Parts of the Earth, and an eaſy Explication of them by our *Hypotheſis*; which whether it be true or no, if you compare it impartially with Nature, you will confeſs at leaſt, that all theſe things are juſt in ſuch a Form and Poſture as if it was true.

CHAP. X.

Concerning the Channel of the Sea, and the Original of it; The Cauſes of its irregular Form and unequal Depths: As alſo of the Original of Iſlands, their Situation and other Properties.

WE have hitherto given an Account of the ſubterraneous Regions, and of their general Form; We now come above Ground to view the Surface of the Globe, which we find *Terraqueous*, or divided into Sea and Land: Theſe we muſt ſurvey, and what is remarkable in them as to their Frame and Structure, we muſt give an Account of from our *Hypotheſis*, and ſhew to be unaccountable from any other yet known.

As for the Ocean, there are two things conſiderable in it, the Water and the Channel that contains it. The Water no doubt is as ancient as the Earth and cotemporary with it, and we ſuppoſe it to be Part of the great Abyſs wherein the World was drown'd; the reſt lying cover'd under the hollow Fragments of Continents and Iſlands. But that is not ſo much the Subject of our preſent Diſcourſe as the Channel of the Ocean, that vaſt and prodigious Cavity that runs quite round the Globe, and reacheth, for ought we know, from Pole to Pole, and in many Places is unſearchably deep: When I preſent this great Gulf to my Imagination, emptied of all its Waters, naked and gaping at the Sun, ſtretching its Jaws from one End of the Earth to another, it appears to me the moſt ghaſtly thing in Nature. What Hands or Inſtruments could work a Trench in the Body of the Earth of this vaſtneſs, and lay Mountains and Rocks on the ſide of it, as Ramparts to encloſe it?

But as we juſtly admire its Greatneſs, ſo we cannot at all admire its Beauty or Elegancy, for 'tis as deform'd and irregular as it is great. And there appearing nothing of Order or any regular Deſign in its Parts, it ſeems reaſonable to believe that it was not the Work of Nature, according to her firſt Intention, or according to the firſt Model that was drawn in Meaſure and Proportion by the Line and by the Plummet, but a ſecondary Work, and the beſt that could be made of broken Materials. And upon this Suppoſition 'tis eaſy to imagine, how upon the Diſſolution of the Primæval Earth the Channel of the Sea was made, or that huge Cavity that lies between the ſeveral Continents of the Earth; which ſhall be more particularly explain'd after we have view'd a little better the Form of it, and the Iſlands that lie ſcatter'd by its Shores.

There is no Cavity in the Earth, whether open or ſubterraneous, that is comparably ſo great as that of the Ocean, nor would any appear of that Deformity if we could ſee it empty. The Inſide of a Cave is rough and unſightly; the Beds of great Rivers and great Lakes when they are laid dry, look very raw and rude, the Valleys of the Earth, if they were naked, without Trees and without Graſs, nothing but bare Ground and bare Stones, from the tops of their Mountains, would have a ghaſtly Aſpect; but the Sea-Channel is the Complex of all theſe; here Caves, empty Lakes, naked Valleys are repreſented as in their Original, or rather far exceeded and outdone as to all their Irregularities; for the Cavity of the Ocean is univerſally irregular, both as to the Shores and Borders of it; as to the uncertain Breadth and the uncertain Depth of its ſeveral Parts, and as to its Ground and Bottom and the whole Mould: If the Sea had been drawn round the Earth in regular Figures and Borders, it might have been a great Beauty to our Globe, and we ſhould reaſonably have concluded it a Work of the firſt Creation, or of Nature's firſt Production; but finding on the contrary all the Marks of Diſorder and Diſproportion in it, we may as reaſonably conclude, that it did not belong to the firſt Order of Things, but was ſomething ſuccedaneous, when the Degeneracy of Mankind, and the Judgments of God had deſtroy'd the firſt World, and ſubjected the Creation to ſome kind of Vanity.

Nor can it eaſily be imagin'd, if the Sea had been always, and the Earth, in this *Terraqueous* Form, broke into Continents and Iſlands, how Mankind could have been propagated at firſt through the Face of the Earth, all from one Head and from one Place. For Navigation was not then known, at leaſt as to the grand Ocean, or to paſs from Continent to Continent; and I believe, *Noah*'s Ark was the firſt Ship, or Veſſel of Bulk, that ever was built in the World; how could then the Poſterity of *Adam* overflow the Earth, and ſtock the ſeveral Parts of the World, if they had been diſtant or ſeparate then, as they are now, by the Interpoſal of the great Ocean? But this Conſideration we will inſiſt upon more largely in another Place; let us reflect upon the Irregularities of the Sea-Channel again, and the poſſible Cauſes of it.

If we could imagine the Channel of the Sea to have been made as we may imagine the Channel of Rivers to have been, by long and inſenſible Attrition, the Water wearing by degrees the Ground under it, by the Force it hath from its Deſcent and Courſe, we ſhould not wonder at its irregular Form; but 'tis not poſſible this Channel ſhould have had any ſuch Original; whence ſhould its Water have deſcended, from what Mountains, or from what Clouds? Where is the Spring-head of the Sea? What Force could eat away half the Surface of the Earth, and wear it hollow to an immeaſurable Depth? This muſt not be from feeble and lingring Cauſes, ſuch as the Attrition of Waters, but from ſome great Violence offer'd to Nature, ſuch as we ſuppoſe to have been in the general Deluge, when the Frame of the Earth was broken. And after we have a little ſurvey'd the Sea-Coaſt, and, ſo far as we can, the Form of the Sea-Channel, we ſhall the more eaſily believe that they could have no other Original than what we aſſign.

The Shores and Coaſts of the Sea are no way equal or uniform, but go in a Line uncertainly crooked and broke; indented and jag'd as a thing torn, as you may ſee in the Maps of the Coaſts and the Sea-charts; and yet there are innumerable more Inequalities than are taken Notice of in thoſe Draughts; for they only mark the greater Promontories and Bays; but there are beſides thoſe a Multitude of Creeks and Out-lets, Necks of Land and Angles, which break the Evenneſs of the Shore in all manner of Ways. Then the Height and Level of the Shore is as uncertain as the Line of it; 'tis ſometimes high and ſometimes low, ſometimes ſpread in ſandy Plains, as ſmooth as the Sea it ſelf, and of ſuch an equal Height with it, that the Waves ſeem to have no Bounds but the meer Figure and Convexity of the Globe; in other Places 'tis rais'd into Banks and Ramparts of Earth, and in others 'tis wall'd in with Rocks; and all this without any Order that we can obſerve, or any other Reaſon than that this is what might be expected in a Ruin.

As to the Depths and Soundings of the Sea, they are under no Rule nor Equality any more

than

than the Figures of the Shores; Shallows in ſome Places, and Gulphs in others; Beds of Sands ſometimes, and ſometimes Rocks under Water; as Navigators have learn'd by a long and dangerous Experience: And tho' we that are upon dry Land, are not much concern'd how the Rocks and the Shelves lie in the Sea, yet a poor Shipwreckt-Mariner, when he hath run his Veſſel upon a Rock in the middle of the Channel, expoſtulates bitterly with Nature, who it was that plac'd that Rock there, and to what purpoſe? Was there not Room enough, ſaith he, upon the Land, or the Shore, to lay your great Stones, but they muſt be thrown into the middle of the Sea, as it were in ſpite to Navigation? The beſt Apology that can be made for Nature in this Caſe, ſo far as I know, is to confeſs that the whole Buſineſs of the Sea-Channel is but a Ruin, and in a Ruin Things tumble uncertainly, and commonly lie in Confuſion: Though to ſpeak the Truth, it ſeldom happens, unleſs in narrow Seas, that Rocks or Banks or Iſlands lie in the middle of them, or very far from the Shores.

Having view'd the more viſible Parts of the Channel of the Sea, we muſt now deſcend to the bottom of it, and ſee the Form and Contrivance of that; but who ſhall guide us in our Journey, while we walk, as *Job* ſaith, *Chap.* 38. 16. in the ſearch of the Deep? Or who can make a Deſcription of that which none hath ſeen? It is reaſonable to believe, that the bottom of the Sea is much more rugged, broken and irregular than the Face of the

Land. There are Mountains, and Valleys, and Rocks, and Ridges of Rocks, and all the common Inequalities we ſee upon Land; beſide theſe, 'tis very likely there are Caves under Water, and hollow Paſſages into the Bowels of the Earth, by which the Seas circulate and communicate one with another, and with ſubterraneous Waters; thoſe great *Eddees* and infamous *Syrtes* and Whirpools that are in ſome Seas, as the *Baltick* and the *Mediterranean*, that ſuck into them and overwhelm whatever comes within their reach, ſhow that there is ſomething below that ſucks from them in Proportion, and that drinks up the Sea as the Sea drinks up the Rivers. We ought alſo to imagine the Shores within the Water to go inclin'd and ſloping, but with great Inequality; there are many Shelves in the way, and Chambers, and ſharp Angles; and many broken Rocks and great Stones lie rolled down to the Bottom.

'Tis true theſe things affect us little, becauſe they are not expos'd to our Senſes; and we ſeldom give our ſelves the trouble to collect from Reaſon what the Form of the inviſible and inaceſſible Parts of the Earth is; or if we do ſometimes, thoſe *Idea*'s are faint and weak, and make no laſting Impreſſion upon our Imagination and Paſſions; but if we ſhould ſuppoſe the Ocean dry, and that we lookt down from the Top of ſome high Cloud upon the empty Shell, how horridly and barbarouſly would it look? And with what Amazement ſhould we ſee it under us like an open Hell, or a wide bottomleſs Pit? So deep,and hollow, and vaſt; ſo broken and confus'd, ſo every way deform'd and monſtrous. This would effectually waken our Imagination, and make us enquire and wonder how ſuch a thing came in Nature; from what Cauſes, by what Force or Engines could the Earth be torn in this prodigious manner? Did they dig the Sea with Spades, and carry out the Molds in Hand-baskets? Where are the Entrails laid? and how did they cleave the Rocks aſunder? If as many Pioneers as the Army of *Xerxes* had been at Work ever ſince the Beginning of the World, they could not have made a Ditch of this Greatneſs. Nor is it the Greatneſs only, but that wild and multifarious Confuſion which we ſee in the Parts and Faſhion of it, that makes it ſtrange and unaccountable; 'tis another Chaos in its kind, who can paint the Scenes of it? Gulfs, and Precipices, and Cataracts; Pits within Pits, and Rocks under Rocks, broken Mountains and ragged Iſlands, that look as if they had been Countries pull'd up by the Roots, and planted in the Sea.

If we could make true and full Repreſentations of theſe things to our ſelves, I think we ſhould not be ſo bold as to make them the immediate Product of Divine Omnipotence; being deſtitute of all Appearance of Art or Counſel. The firſt Orders of things are more perfect and regular; and this *Decorum* ſeems to be obſerv'd, that Nature doth not fall into Diſorder till Mankind be firſt degenerate and leads the way. Monſters have been often made an Argument againſt Providence; if a Calf have two Heads, or five Legs, ſtreight there muſt not be a God in Heaven, or at leaſt not upon Earth; and yet this is but a Chance that happens once in many Years, and is of no Conſequence at all to the reſt of the World: But if we make the ſtanding Frame of Nature monſtrous, or deform'd and diſproportion'd, and to have been ſo not by Corruption and Degeneracy, but immediately by divine Creation or Formation, it would not be ſo eaſy to anſwer that Objection againſt Providence. Let us therefore prevent this Imputation; and ſuppoſing, according to our Theory, that theſe Things were not originally thus, let us now explain more diſtinctly how they came to paſs at the Deluge, or upon the Diſſolution of the firſt Earth.

And we will not content our ſelves with a general Anſwer to theſe Obſervations concerning the Sea-channel, as if it was a ſufficient Account of them to ſay they were the Effects of a Ruin; there are other things to be conſider'd and explain'd beſide this Irregularity, as the vaſt Hollowneſs of this Cavity, bigger incomparably than any other belonging to the Earth; and alſo the Declivity of the Sides of it, which lie ſhelving from Top to Bottom: For notwithſtanding all the Inequalities we have taken notice of in the Channel of the Sea, it hath one general Form, which may, tho' under many Differences, be obſerv'd throughout, and that is, that the Shores and Sides within the Water lie inclin'd, and you deſcend by degrees to the deepeſt Part, which is towards the Middle. This, I know, admits of many Exceptions; for ſometimes upon a rocky Shore, or among rocky Iſlands the Sea is very deep cloſe to the Rocks, and the deeper commonly the higher and ſteeper the Rocks are. Alſo where the Deſcent is more leiſurely, 'tis often after a different manner, in ſome Coaſts more equal and uniform, in others more broken and interrupted; but ſtill there is a Deſcent to the Channel or deepeſt Part, and this in the deep Ocean is fathomleſs; and ſuch a deep Ocean, and ſuch a deep Channel there is always between Continents. This, I think, is a Property as determinate as any we can pitch upon in the Channel of the Sea, and with thoſe other two mention'd; its vaſt Cavity, and univerſal Irregularity, is all one can deſire an Account of as to the Form of it; we will therefore from this Ground take our Riſe and firſt Meaſures for the Explication of the Sea-channel.

Let us ſuppoſe then in the Diſſolution of the Earth when it began to fall, that it was divided only into three or four Fragments, according to the Number of our Continents; but thoſe Fragments being vaſtly great, could not deſcend, at their full Breadth and Expanſion, or at leaſt could not deſcend ſo faſt in the Middle as towards the Extremities; becauſe the Air about the Edges would yield and give Place eaſily, not having far to go to get out of the Way; but the Air that was under the Middle of the Fragment could not without a

Fig: 9. Book 1. pag: 185.

fig. 1.

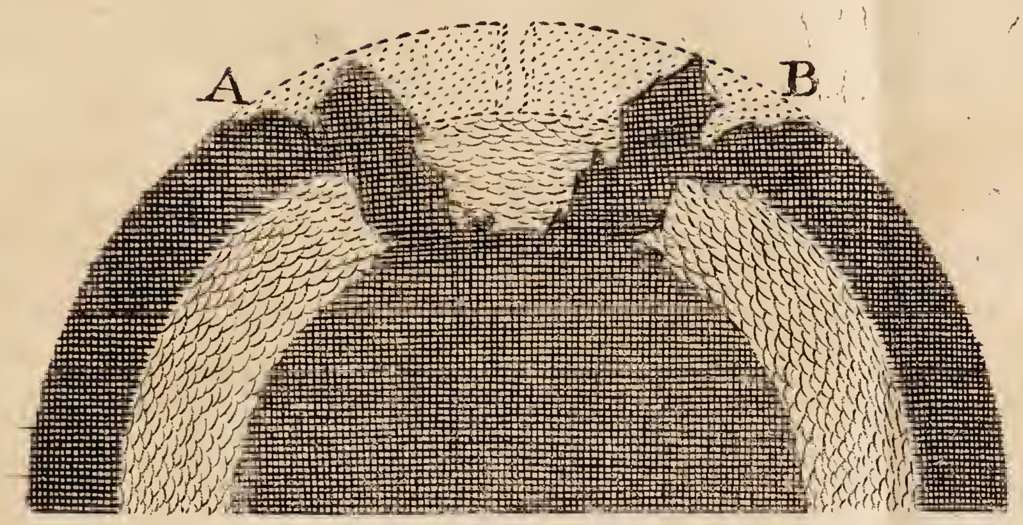


fig. 2.

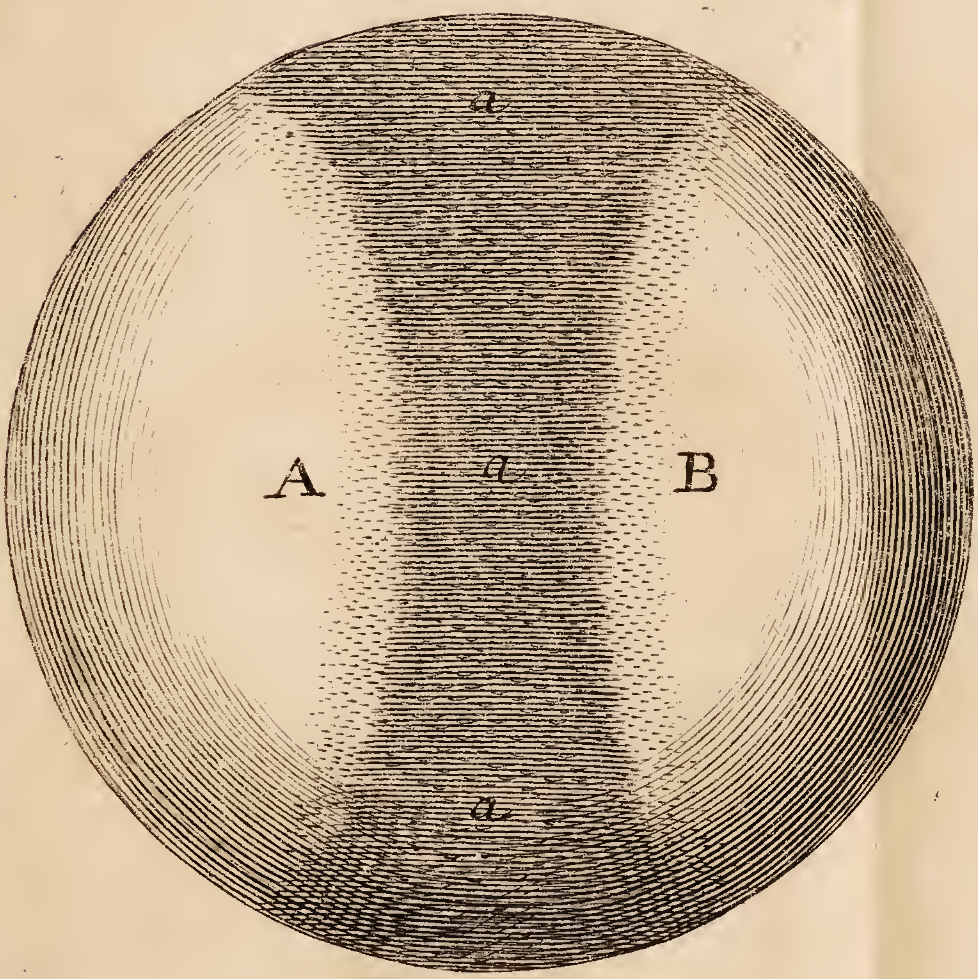
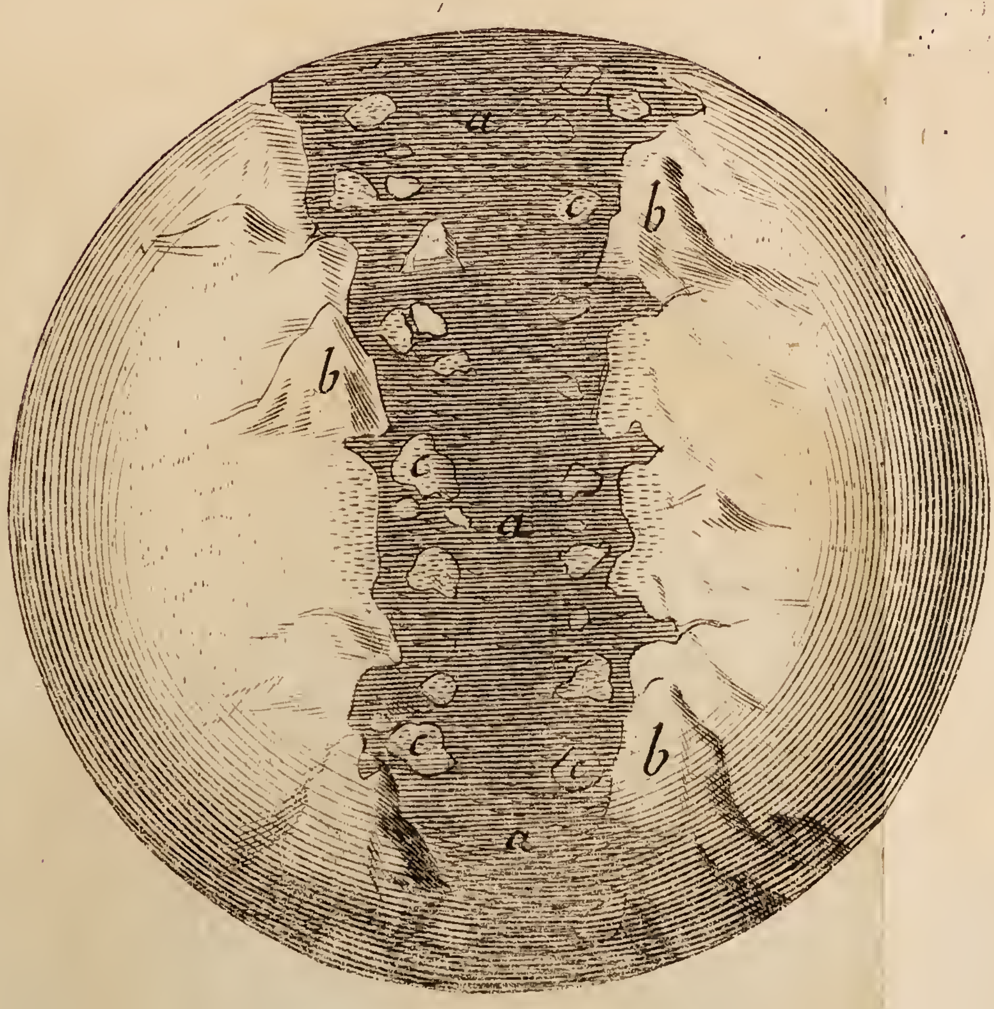


fig. 3.



very ſwift Motion get from under the Concave of it, and conſequently its Deſcent there would be more reſiſted and ſuſpended; but the Sides in the mean time would continually deſcend, bending the Fragment with their Weight, and ſo making it of a leſſer Compaſs and Expanſion than it was before: And by this Means there would be an Interval and Diſtance made between the two falling Fragments, and a good Part of the Abyſs, after their Deſcent, would lie uncover'd in the Middle betwixt them; as may be ſeen in the annex'd Figure, where the Fragments A. B. bending downwards in their Extremities, ſeparate as they go, and after they are faln, leave a good Space in the Abyſs betwixt them altogether uncover'd: This Space is the main Channel of the great Ocean, lying betwixt two Continents; and the inclining Sides ſhew the Declivity of the Shores.

This we have repreſented here only in a Ring or Circle of the Earth, in the firſt Figure; but it may be better repreſented in a broader Surface, as in the ſecond Figure, where the two Fragments A. B. that are to make the two oppoſite Continents, fall in like double Doors, opening downwards, the Hinges being towards the Land on either Side, ſo as at the Bottom they leave in the Middle betwixt them a deep Channel of Water, *a. a. a.* ſuch as is betwixt all Continents; and the Water reaching a good Height upon the Land on either Side, makes Sea there too, but ſhallower,

lower, and by degrees you deſcend into the deepeſt Channel.

This gives an Account of two Things that we mention'd to be conſider'd and explain'd as to the Sea, how the great Cavity of its Channel was made, and how it was made in that general Form of Declivity in its Sides from the Land: The third Thing was the Irregularities of it, both as to its various Depths, and as to the Form of the Shores and of the Bottom. And this is as eaſily and naturally explain'd from the ſame Suppoſition as the former two; for tho' we have hitherto repreſented the Fragments A. B. as even and regular after their Fall, becauſe that was moſt ſimple, and there was no occaſion then to repreſent them otherwiſe, yet we muſt ſuppoſe, that as ſoon as in their Fall they hit upon the Top or Bottom of the Abyſs, that great Force and Weight with which they deſcended broke off all the Edges and Extremities, and ſo made innumerable Ruptures and Inequalities in the Shores, and as many within the Sea, and at the Bottom; where the broken Rocks and Lumps of Earth would lie in all imaginable Diſorder; as you may conceive from the *third Figure.* For when the Motion came on a ſudden to be obſtructed, the Load of the Fragment ſtill preſſing it forwards, ſuch a Concuſſion aroſe as made thouſands of leſſer Fragments, of all Shapes and Magnitudes, and in all Poſtures and Forms, and moſt of them irregular. And by theſe Fractions and ſecondary Ruins the Line of the Shores was broken, and the Level of them too: In ſome Places they would ſtand high, in others low, ſometimes rough, and ſometimes even, and generally crooked, with Angles and In-lets, and uncertain Windings. The Bottom alſo by the ſame Stroke was diverſify'd into all Manner of Forms, ſometimes rocky with Pits and Gulfs, and ſometimes ſpread in plain Beds, ſometimes ſhallow, and ſometimes deep; ~~for~~ thoſe Differences would depend only upon the Situation of the ſecondary Fragments; ~~and ſo~~ it might come to paſs, that ſome Places near the Shore might be exceſſive deep when a Rock or Rocks ſtood in a ſteep Poſture, as (*Figure* 3.) *b. b. b.* and, on the contrary, ſometimes Places much more advanc'd into the Ocean, might be leſs deep, where a Fragment of Earth lay under Water, or one bore up another, as *c. c. c.* but theſe Caſes would not be very frequent. To conclude, There are no Properties of the Sea-channel, that I know of, nor Differences or Irregularities in the Form of it, which this *Hypotheſis* doth not give a fair Account of: And having thus far open'd the Way, and laid down the general Grounds for their Explication, other things that are more minute, we leave to the Curioſity of particular Genius's; being unwilling to clog the Theory at firſt with things that may ſeem unneceſſary. We proceed now to the Conſideration of Iſlands.

We muſt in the firſt Place diſtinguiſh between *Original* Iſlands and *Factitious* Iſlands: Thoſe I call factitious, that are not of the ſame

Date and Antiquity with the Sea, but have been made ſome at one time, ſome at another, by accidental Cauſes, as the Aggeſtion of Sands and Sand-beds, or the Sea leaving the Tops of ſome ſhallow Places that lie high, and yet flowing about the lower Skirts of them; theſe make ſandy and plain Iſlands, that have no high Land in them, and are but Mock-Iſlands in effect. Others are made by Divulſion from ſome Continent, when an Iſthmus, or the Neck of a Promontory running into the Sea, ſinks or falls in, by an Earthquake or otherwiſe, and the Sea entring in at the Gap paſſeth through, and makes that Promontory or Country become an Iſland. Thus the Iſland *Sicily* is ſuppos'd to have been made, and all *Africa* might be an Iſland, if the Iſthmus between the *Mediterranean* and the red Sea ſhould ſink down. And theſe Iſlands may have Rocks and Mountains in them, if the Land had ſo before. Laſtly, There are Iſlands that have been ſaid to riſe from the Bottom of the Sea; Hiſtory mentions ſuch in both the *Archipelago's*, *Ægæan* and *Indian*; and this ſeems to argue that there are great Fragments or Tracts of Earth that lie looſe at the Bottom of the Sea, or that are not incorporated with the Ground; which agrees very well with our Explication of the Sea-channel.

But beſide theſe Iſlands, and the ſeveral Sorts of them, there are others which I call *Original*; becauſe they could not be produc'd in any of the forementioned Ways, but are of the ſame Origin and Antiquity with the Channel of the Sea; and ſuch are the Generality of our Iſlands; they were not made of Heaps of Sands, nor torn from any Continent, but are as ancient as the Continents themſelves, namely, ever ſince the Deluge, the common Parent of them both. Nor is there any Difficulty to underſtand how Iſlands were made at the Diſſolution of the Earth, any more than how Continents were made; for Iſlands are but leſſer Continents, or Continents greater Iſlands; and according as Continents were made of greater Maſſes of Earth, or greater Fragments ſtanding above the Water, ſo Iſlands were made of leſs, but ſo big always, and in ſuch a Poſture, as to bear their Tops above the Water. Yet tho' they agree thus far, there is a particular Difference to be taken notice of as to their Origin; for the Continents were made of thoſe three or four primary Maſſes into which the falling Orb of the Earth was divided, but the Iſlands were made of the Fractures of theſe, and broken off by the Fall from the Skirts and Extremities of the Continents: We noted before, that when thoſe great Maſſes and primary Fragments came to daſh upon the Abyſs in their Fall, the ſudden Stop of the Motion, and the weighty Bulk of the deſcending Fragment broke off all the Edges and Extremities of it, which Edges and Extremities broken off made the Iſlands; and accordingly we ſee that they generally lie ſcatter'd along the Sides of the Continents, and are but Splinters, as it were, of thoſe greater Bodies. 'Tis true, beſide theſe, there were an infinite Number of other Pieces broke off that do not appear, ſome making Rocks under Water, ſome Shallows and Banks in the Sea; but the greateſt of them when they fell either one upon another, or in ſuch a Poſture as to prop up one another, their Heads and higher Parts would ſtand out of the Water and make Iſlands.

Thus I conceive the Iſlands of the Sea were at firſt produc'd; we cannot wonder therefore that they ſhould be ſo numerous, or far more numerous than the Continents; theſe are the Parents, and thoſe are the Children; nor can we wonder to ſee along the Sides of the Continents ſeveral Iſlands or Sets of Iſlands, ſown, as it were, by Handfuls, or laid in Trains; for the Manner of their Generation would lead us to think they would be ſo plac'd. So the *American* Iſlands lie ſcatter'd upon the Coaſt of that Continent; the *Maldivian* and *Philippine* upon the *Eaſt-Indian* Shore, and the *Heſperides* upon the *Africk*; and there ſeldom happen to be any towards the Middle of the Ocean, tho', by an Accident, that alſo might come to paſs. Laſtly, It ſuits very well with our Explication, that there ſhould be Mountains and Rocks, ſometimes in Cluſters, ſometimes in long Chains, in all Iſlands; (as we find there are in all that are true and original) for 'tis that makes them high enough to appear above the Water, and ſtrong enough to continue and preſerve themſelves in that high Situation.

And thus much may ſuffice for a ſummary Explication of the Cauſes of the Sea-channel and Iſlands, according to our *Hypotheſis.*

CHAP. XI.

Concerning the Mountains of the Earth, their Greatneſs and irregular Form, their Situation, Cauſes, and Origin.

WE have been in the Hollows of the Earth, and the Chambers of the Deep, amongſt the Damps and Steams of thoſe lower Regions; let us now go air our ſelves on the Tops of the Mountains, where we ſhall have a more free and large Horizon, and quite another Face of Things will preſent itſelf to our Obſervation.

The greateſt Objects of Nature are, methinks, the moſt pleaſing to behold; and next to the great Concave of the Heavens, and thoſe boundleſs Regions where the Stars inhabit, there is nothing that I look upon with more Pleaſure than the wide Sea and the Mountains of the Earth. There is ſomething auguſt and ſtately in the Air of theſe things, that inſpires the Mind with great Thoughts and Paſſions; we do naturally, upon ſuch Occaſions, think of God and his Greatneſs: And whatſoever hath but the Shadow and Appearance of INFINITE, as all Things have that are too big for our Comprehenſion, they fill and over-bear the Mind with their Exceſs, and caſt it into a pleaſing kind of Stupor and Admiration.

And yet theſe Mountains we are ſpeaking of, to confeſs the Truth, are nothing but great Ruins; but ſuch as ſhow a certain Magnificence in Nature; as from old Temples and broken Amphitheatres of the *Romans* we collect the Greatneſs of that People. But the Grandeur of a Nation is leſs ſenſible to thoſe that never ſee the Remains and Monuments they have left; and thoſe who never ſee the mountainous Parts of the Earth, ſcarce ever reflect upon the Cauſes of them, or what Power in Nature could be ſufficient to produce them. The Truth is, the Generality of People have not Senſe and Curioſity enough to raiſe a Queſtion concerning theſe things, or concerning the Original of them. You may tell them that Mountains grow out of the Earth like Fuzz-balls, or that there are Monſters under Ground, that throw up Mountains as Moles do Molehills; they will ſcarce raiſe one Objection againſt your Doctrine. Or if you would appear more Learned, tell them that the Earth is a great Animal, and theſe are Wens that grow upon its Body; this would paſs current for Philoſophy; ſo much is the World drown'd in Stupidity and ſenſual Pleaſures, and ſo little inquiſitive into the Works of God and Nature.

There is nothing doth more awaken our Thoughts, or excite our Minds to enquire into the Cauſes of ſuch Things, than the actual View of them; as I have had Experience my ſelf, when it was my Fortune to croſs the *Alps* and *Appennine* Mountains; for the Sight of thoſe wild, vaſt and indigeſted Heaps of Stones and Earth,did ſo deeply ſtrike my Fancy, that I was not eaſy till I could give my ſelf ſome tolerable Account how that Confuſion came in Nature. 'Tis true, the height of Mountains compar'd with the Diameter of the Earth is not conſiderable, but the Extent of them and the Ground they ſtand upon, bears a conſiderable Proportion to the Surface of the Earth; and if from *Europe* we may take our Meaſures for the reſt, I eaſily believe, that the Mountains do at leaſt take up the tenth Part of the dry Land. The Geographers are not very careful to deſcribe or note in their Charts the Multitude or Situation of Mountains; They mark the Bounds of Countries, the Site of Cities and Towns, and the Courſe of Rivers, becauſe theſe are Things of chief Uſe to civil Affairs and Commerce, and that they deſign to ſerve, and not Philoſophy or natural Hiſtory. But *Cluverius*, in his Deſcription of *Ancient Germany*, *Switzerland* and *Italy*, hath given Maps of thoſe Countries more approaching to the natural Face of them, and we have drawn (at the end of this Chapter) ſuch a Map of either Hemiſphere, without marking Countries or Towns, or any ſuch artificial Things; diſtinguiſhing only Land and Sea, Iſlands and Continents, Mountains and not Mountains; and 'tis very uſeful to imagine the Earth in this Manner, and to look often upon ſuch bare Draughts as ſhew us Nature undreſt; for then we are beſt able to judge what her true Shapes and Proportions are.

'Tis certain that we naturally imagine the Surface of the Earth much more regular than it is; for unleſs we be in ſome Mountainous Parts, there ſeldom occur any great Inequalities within ſo much Compaſs of Ground as we can, at once, reach with our Eye; and to conceive the reſt, we multiply the ſame *Idea*, and extend it to thoſe Parts of the Earth that we do not ſee; and ſo fancy the whole Globe much more ſmooth and uniform than it is. But ſuppoſe a Man was carried aſleep out of a plain Country amongſt the *Alps*, and left there upon the top of one of the higheſt Mountains, when he wak'd and look'd about him, he wou'd think himſelf in an inchanted Country, or carried into another World; every Thing would appear to him ſo different to what he had ever ſeen or imagin'd before. To ſee on every Hand of him a multitude of vaſt Bodies thrown together in Confuſion, as thoſe Mountains are; Rocks ſtanding naked round about him; and the hollow Valleys gaping under him; and at his Feet, it may be, an Heap of frozen Snow in the midſt of Summer. He would hear the Thunder come from below, and ſee the black Clouds hanging beneath him; upon ſuch a Proſpect it would not be eaſy to him to perſwade himſelf that he was ſtill upon the ſame Earth; but if he did, he would be convinc'd, at leaſt, that there are ſome Regions of it ſtrangely rude, and ruin-like, and very different from what he had ever thought of before.

But the Inhabitants of theſe wild Places are even with us; for thoſe that live amongſt the *Alps* and the great Mountains, think that all the reſt of the Earth is like their Country, all broken into Mountains, and Valleys, and Precipices; they never ſee other, and moſt People think of nothing but what they have ſeen at one time or another.

Theſe *Alps* we are ſpeaking of are the greateſt Range of Mountains in *Europe*; and 'tis prodigious to ſee and to conſider of what extent theſe Heaps of Stones and Rubbiſh are; one way they over-ſpread *Savoy* and *Dauphine*, and reach thro' *France* to the *Pyrenean* Mountains, and ſo to the Ocean. The other way they run along the Skirts of *Germany*, thro' *Stiria*, *Pannonia*, and *Dalmatia*, as far as *Thrace* and the Black Sea. Then backwards they cover *Switzerland* and the Parts adjacent; and that Branch of them which we call the *Appennines*, ſtrikes thro' *Italy*, and is, as it were, the Back-bone of that Country. This muſt needs be a large Space of Ground which they ſtand upon; yet 'tis not this part of *Europe* only that is laden with Mountains, the Northern part is as rough and rude in the Face of the Country, as in the Manners of the People; *Bohemia*, *Sileſia*, *Denmark*, *Norway*, *Sweedland*, *Lapland*, and *Iſeland*, and all the Coaſts of the *Baltick Sea*, are full of Clifts, and Rocks, and Crags of Mountains: Beſides the *Riphean* Mountains in *Muſcovy*, which the Inhabitants there uſe to call the *Stone-girdle*, and believe that it girds the Earth round about.

Nor are the other Parts of our Continent more free from Mountains than *Europe*, nor other Parts of the Earth than our Continent: They are in the New World as well as the Old; and if they could diſcover two or three New Worlds or Continents more, they would ſtill find them there. Neither is there any Original Iſland upon the Earth, but is either all a Rock, or hath Rocks and Mountains in it. And all the dry Land, and every Continent, is but a kind of Mountain; tho' that Mountain hath a multitude of leſſer ones, and Valleys, and Plains, and Lakes, and Marſhes, and all variety of Grounds.

In *America*, the *Andes*, or a Ridge of Mountains ſo called, are reported to be higher than any we have, reaching above a thouſand Leagues in Length, and twenty in Breadth, where they are the narroweſt. In *Africk* the Mountain *Atlas*, that for its Height was ſaid to bear the Heavens on its Back, runs all along from the Weſtern Sea to the Borders of *Ægypt*, parallel with the *Mediterranean*. There alſo are the Mountains of the *Moon*, and many more whereof we have but an imperfect Account, as neither indeed of that Country in the remote and inner Parts of it. *Aſia* is better known, and the Mountains thereof better deſcrib'd: *Taurus*, which is the principal, was adjudg'd by the Ancient Geographers the greateſt in the World. It divides *Aſia* into two Parts, which have their Denomination from it: And there is an *Anti-Taurus* the greater and the leſs, which accordingly divide *Ar-*

menia into greater and leſs. Then the *Cruciform* Mountains of *Imaus*, the famous *Caucaſus*, the long Chains of *Tartary* and *China*, and the Rocky and Mountainous *Arabia*. If one could at once have a Proſpect of all theſe together, one would be eaſily ſatisfied, that the Globe of the Earth is a more rude and indigeſted Body than 'tis commonly imagin'd; if one could ſee, I ſay, all the Kingdoms and Regions of the Earth at one View, how they lie in broken Heaps; The Sea hath overwhelm'd one half of them, and what remains are but the taller parts of a Ruin. Look upon thoſe great Ranges of Mountains in *Europe* or in *Aſia* whereof we have given a ſhort Survey, in what Confuſion do they lie? They have neither Form nor Beauty, nor Shape, nor Order, no more than the Clouds in the Air. Then how Barren, how Deſolate, how Naked are they? How they ſtand neglected by Nature? Neither the Rains can ſoften them, nor the Dews from Heaven make them fruitful.

I have given this ſhort Account of the Mountains of the Earth, to help to remove that Prejudice we are apt to have, or that Conceit, that the preſent Earth *is regularly form'd*. And to this purpoſe I do not doubt but that it would be of very good Uſe to have *natural* Maps of the Earth, as we noted before, as well as *civil*; and done with the ſame Care and Judgment. Our common Maps I call *Civil*, which note the Diſtinction of Countries and of Cities, and repreſent the Artificial Earth as inhabited and cultivated: But Natural Maps leave out all that, and repreſent the Earth as it would be if there was not an Inhabitant upon it, nor ever had been; the Skeleton of the Earth, as I may ſo ſay, with the Sight of all its Parts. Methinks alſo every Prince ſhould have ſuch a Draught of his own Country and Dominions, to ſee how the Ground lies in the ſeveral Parts of them, which higheſt, which loweſt; what Reſpect they have to one another, and to the Sea; how the Rivers flow, and why; how the Mountains ſtand; how the Heaths, and how the Marſhes are plac'd. Such a Map or Survey would be uſeful both in time of War and Peace, and many good Obſervations might be made by it, not only as to natural Hiſtory and Philoſophy, but alſo in order to the perfect Improvement of a Country. But to return to our Mountains.

And this View of the Multitude and Greatneſs of them may help to rectify our Miſtakes about the Form of the Earth; ſo before we proceed to examine their Cauſes, it will be good to obſerve further, that theſe Mountains are plac'd in no Order one with another, that can either reſpect Uſe or Beauty; and if you conſider them ſingly, they do not conſiſt of any Proportion of Parts that is referable to any Deſign, or that hath the leaſt Footſteps of Art or Counſel. There is nothing in Nature more ſhapeleſs and ill-figur'd than an old Rock or a Mountain, and all that Variety that is among them, is but the various Modes of Irregularity; ſo as you cannot make a better

Character of them, in ſhort, than to ſay they are of all Forms and Figures, except regular. Then if you would go within theſe Mountains, (for they are generally hollow) you would find all Things there more rude, if poſſible, than without: And laſtly, if you look upon an Heap of them together, or a mountainous Country, they are the greateſt Examples of Confuſion that we know in Nature; no Tempeſt or Earthquake puts Things into more Diſorder. 'Tis true, they cannot look ſo ill now as they did at firſt; a Ruin that is freſh looks much worſe than afterwards, when the Earth grows diſcolour'd and skin'd over. But I fancy if we had ſeen the Mountains when they were new born and raw, when the Earth was freſh broken, and the Waters of the Deluge newly retir'd, the Fractions and Confuſions of them would have appear'd very ghaſtly and frightful.

After this general Survey of the Mountains of the Earth and their Properties, let us now reflect upon the Cauſes of them. There is a double Pleaſure in Philoſophy; firſt that of Admiration, whilſt we contemplate Things that are great and wonderful, and do not yet underſtand their Cauſes; for tho' Admiration proceeds from Ignorance, yet there is a certain Charm and Sweetneſs in that Paſſion. Then the ſecond Pleaſure is greater and more intellectual, which is that of diſtinct Knowledge and Comprehenſion, when we come to have the Key that unlocks thoſe Secrets, and ſee the Methods wherein thoſe Things come to paſs that we admir'd before: The Reaſons why the World is ſo or ſo, and from what Cauſes Nature, or any Part of Nature, came into ſuch a State; and this we are now to enquire after as to the Mountains of the Earth, what their Original was, how and when the Earth came into this ſtrange Frame and Structure. In the Beginning of our World, when the Earth roſe from a Chaos, 'twas impoſſible it ſhould come immediately into this mountainous Form; becauſe a Maſs that is fluid, as a Chaos is, cannot lie in any other Figure than what is regular; for the conſtant Laws of Nature do certainly bring all Liquors into that Form: And a Chaos is not call'd ſo from any Confuſion or Brokenneſs in the Form of it, but from a Confuſion and Mixture of all Sorts of Ingredients in the Compoſition of it. So we have already produc'd, in the precedent Chapters, a double Argument that the Earth was not originally in this Form, both becauſe it roſe from a Chaos, which could not of itſelf, or by any immediate Concretion, ſettle into a Form of this Nature, as hath been ſhown in the fourth and fifth Chapters; as alſo becauſe if it had been originally made thus, it could never have undergone a Deluge, as hath been prov'd in the ſecond and third Chapters. If this be then a ſecondary and ſuccedaneous Form, the great Queſtion is from what Cauſes it ariſes.

Some have thought that Mountains, and all other Irregularities in the Earth, have Riſe from Earthquakes, and ſuch like Cauſes; others have thought that they came from the univerſal Deluge; yet not from any Diſſolution of the Earth that was then, but only from the great Agitation of the Waters, which broke the Ground into this rude and unequal Form. Both theſe Cauſes ſeem to me very incompetent and inſufficient. Earthquakes ſeldom make Mountains, they often take them away, and ſink them down into the Caverns that lie under them; beſides, Earthquakes are not in all Countries and Climates as Mountains are; for, as we have obſerv'd more than once, there is neither Iſland that is original, nor Continent any where in the Earth, in what Latitude ſoever, but hath Mountains and Rocks in it. And laſtly, what Probability is there, or how is it credible, that thoſe vaſt Tracks of Land which we ſee fill'd with Mountains both in *Europe*, *Aſia* and *Africa*, were rais'd by Earthquakes, or any Eruptions from below? In what Age of the World was this done, and why not continu'd? As for the Deluge, which they alledge as another Cauſe, I doubt not but Mountains were made in the Time of the general Deluge, that great Change and Transformation of the Earth happen'd then, but not from ſuch Cauſes as are pretended, that is, the bare rolling and agitation of the Waters; for if the Earth was ſmooth and plain before the Flood, as they ſeem to ſuppoſe as well as we do, the Waters could have little or no Power over a ſmooth Surface to tear it any way in Pieces, no more than they do a Meadow or low Ground when they lie upon it; for that which makes Torrents and Land-floods violent, is their Fall from the Mountains and high Lands, which our Earth is now full of; but if the Rain fell upon even and level Ground, it would only ſodden and compreſs it ; there is no poſſibility how it ſhould raiſe Mountains in it. And if we could imagine an univerſal Deluge as the Earth is now conſtituted, it would rather throw down the Hills and Mountains than raiſe new ones ; or by beating down their Tops and looſe Parts, help to fill the Valleys, and bring the Earth nearer to Evenneſs and Plainneſs.

Seeing then there are no Hopes of explaining the Origin of Mountains, either from particular Earthquakes, or from the general Deluge, according to the common Notion and Explication of it ; theſe not being Cauſes anſwerable to ſuch vaſt Effects : Let us try our *Hypotheſis* again; which hath made us a Channel large enough for the Sea, and room for all ſubterraneous Cavities, and I think will find us Materials enough to raiſe all the Mountains of the Earth. We ſuppoſe the great Arch or Circumference of the firſt Earth to have fallen into the Abyſs at the Deluge, and ſeeing that was larger than the Surface it fell upon, 'tis abſolutely certain, that it could not all fall flat, or lie under the Water : Now as all thoſe Parts that ſtood above the Water made dry Land, or the preſent habitable Earth, ſo ſuch Parts of the dry Land as ſtood higher than the reſt, made Hills and Mountains ; and this is the firſt and general Account of them, and of all the Inequalities of the Earth. But to conſider theſe

Things a little more particularly: There is a double Cauſe and Neceſſity of Mountains, firſt this now mention'd, becauſe the exterior Orb of the Earth was greater than the interior, which it fell upon, and therefore it could not all fall flat; and ſecondly, becauſe this exterior Orb did not fall ſo flat and large as it might, or did not cover all the Bottom of the Abyſs, as it was very capable to do; but as we ſhewed before in explaining the Channel of the Ocean, it left a gaping in the Middle, or an *Abyſs-channel*, as I ſhould call it; and the broader this Abyſs-channel was, the more Mountains there would be upon the dry Land; for there would be more Earth, or more of the falling Orb left, and leſs Room to place it in, and therefore it muſt ſtand more in Heaps.

In what Parts of the Earth theſe Heaps would lie, and in what particular manner, it cannot be expected that we ſhould tell; but all that we have hitherto obſerv'd concerning Mountains, how ſtrange ſoever, and otherwiſe unaccountable, may eaſily be explain'd, and deduc'd from this Original; we ſhall not wonder at their Greatneſs and Vaſtneſs, ſeeing they are the Ruins of a broken World; and they would take up more or leſs of the dry Land, according as the Ocean took up more or leſs Space of our Globe: Then as to their Figure and Form, whether external or internal, 'tis juſt ſuch as anſwers our Expectation, and no more than what the *Hypotheſis* leads us to; for you would eaſily believe that theſe Heaps would be irregular in all manner of ways, whether conſider'd apart, or in their Situation to one another. And they would lie commonly in Cluſters and in Ridges, for thoſe are two of the moſt general Poſtures of the Parts of a Ruin, when they fall inwards. Laſtly, We cannot wonder that Mountains ſhould be generally hollow; for great Bodies falling together in Confuſion, or bearing and leaning againſt one another, muſt needs make a great many Hollowneſſes in them, and by their unequal Applications empty Spaces will be intercepted. We ſee alſo from the ſame Reaſon, why mountainous Countries are ſubject to Earthquakes; and why Mountains often ſink and fall down into the Caverns that lie under them; their Joints and Props being decayed and worn, they become unable to bear their Weight. And all theſe Properties you ſee hang upon one and the ſame String, and are juſt Conſequences from our Suppoſition concerning the Diſſolution of the firſt Earth. And there is no ſurer Mark of a good *Hypotheſis*, than when it doth not only hit luckily in one or two Particulars, but anſwers all that it is to be apply'd to, and is adequate to Nature in her whole Extent.

But how fully or eaſily ſoever theſe Things may anſwer Nature, you will ſay, it may be, that all this is but an *Hypotheſis*; that is, a kind of Fiction or Suppoſition that Things were ſo and ſo at firſt, and by the Coherence and Agreement of the Effects with ſuch a Suppoſition, you would argue and prove that they were really ſo. This I confeſs is true, this is the Method, and if we would know any Thing in Nature further than our Senſes go, we can know it no otherwiſe than by an *Hypotheſis.* When Things are either too little for our Senſes, or too remote and inacceſſible, we have no Way to know the inward Nature, and the Cauſes of their ſenſible Properties, but by reaſoning upon an *Hypotheſis.* If you would know, for Example, of what Parts Water, or any other Liquor conſiſts, they are too little to be diſcern'd by the Eye; you muſt therefore take a Suppoſition concerning their inviſible Figure and Form, and if that agrees and gives the Reaſon of all their ſenſible Qualities, you underſtand the Nature of Water. In like manner, if you would know the Nature of a Comet, or of what Matter the Sun conſiſts, which are Things inacceſſible to us, you can do this no otherwiſe than by an *Hypotheſis*; and if that *Hypotheſis* be eaſy and intelligible, and anſwers all the *Phænomena* of thoſe two Bodies; you have done as much as a *Philoſopher* or as *humane Reaſon* can do. And this is what we have attempted concerning the Earth and concerning the Deluge. We have laid down an *Hypotheſis* that is eaſy and perſpicuous, conſiſting of a few Things, and thoſe very intelligible, and from this we have given an Account how the old World was deſtroy'd by a Deluge of Water, and how the Earth came into this preſent Form, ſo diſtinguiſh'd and interrupted with Sea and Land, Mountains and Valleys, and ſo broken in the Surface and inward Parts of it.

But to ſpeak the Truth, this Theory is ſomething more than a bare *Hypotheſis* ; becauſe we are aſſur'd that the general Ground that we go upon is true, namely, That the Earth roſe at firſt from a Chaos ; for beſides Reaſon and Antiquity, Scripture itſelf doth aſſure us of that ; and that one Point being granted we have deduc'd from it all the reſt by a direct Chain of Conſequences, which I think cannot be broken eaſily in any Part or Link of it. Beſides, the great Hinge of this Theory, upon which all the reſt turns, is the Diſtinction we make of the Antediluvian Earth and Heavens from the Poſtdiluvian, as to their Form and Conſtitution. And it will never be beaten out of my Head, but that St. *Peter*, 2 *Epiſt. ch.* 3. 5, 6. hath made the ſame Diſtinction ſixteen hundred Years ſince, and to the very ſame purpoſe ; ſo that we have ſure footing here again, and the Theory riſeth above the Character of a bare *Hypotheſis*. And whereas an *Hypotheſis* that is clear and proportion'd to Nature in every Reſpect, is accounted morally certain, we muſt in Equity give more than a moral Certitude to this Theory. But I mean this only as to the general Parts of it ; for as to Particularities, I look upon them only as problematical, and accordingly I affirm nothing therein but with a Power of Revocation, and a Liberty to change my Opinion when I ſhall be better inform'd. Neither do I know any Author that hath treated a Matter new, remote, and conſiſting of a Multitude of Particulars, who would not have had

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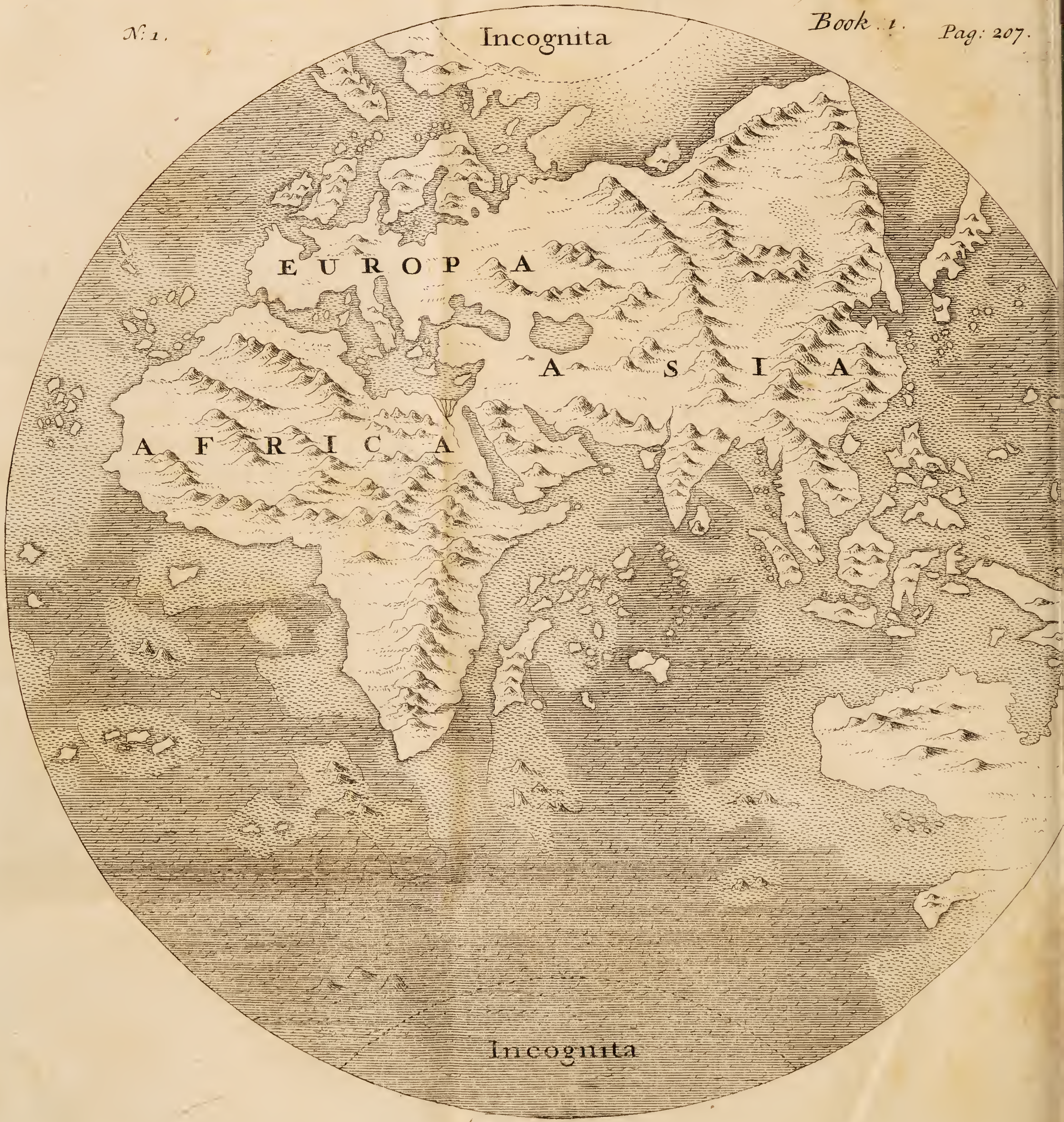

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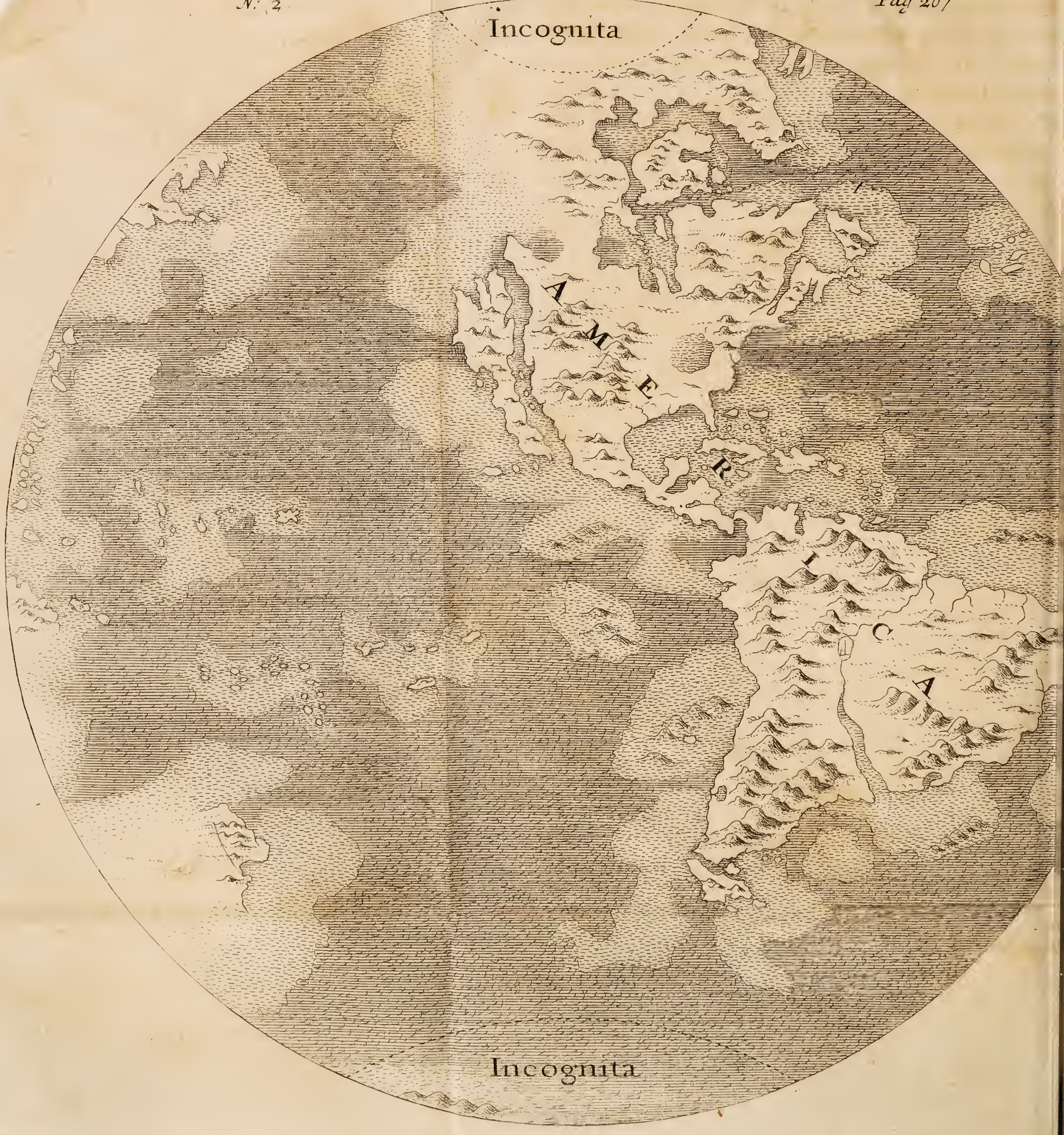


occaſion, if he had liv'd to have ſeen his *Hypotheſis* fully examin'd, to have chang'd his Mind and Manner of explaining Things in many material Inſtances.

To conclude both this Chapter and this Section, we have here added a Map or Draught of the Earth, according to the natural Face of it, as it would appear from the Moon, if we were a little nearer to her; or as it was at firſt after the Deluge, before Cities were built, Diſtinctions of Countries made, or any Alterations by humane Induſtry. 'Tis chiefly to expoſe more to view the Mountains of the Earth, and the Proportions of Sea and Land; to ſhew it as it lies in itſelf, and as a Naturaliſt ought to conceive and conſider it. 'Tis true, there are far more Mountains upon the Earth than what are here repreſented, for more could not conveniently be plac'd in this narrow Scheme; but the beſt and moſt effectual Way of repreſenting the Body of the Earth as it is by Nature, would be, not in plain Tables, but by a *rough Globe*, expreſſing all the conſiderable Inequalities that are upon the Earth. The ſmooth Globes that we uſe, do but nouriſh in us the Conceit of the Earth's Regularity; and tho' they may be convenient enough for geographical Purpoſes, they are not ſo proper for natural Science; nothing would be more uſeful in this reſpect, than a rough Globe of the largeſt Dimenſions, wherein the Channel of the Sea ſhould be really hollow, as it is in Nature, with all its unequal Depths according to the beſt Soundings, and the Shores ex-

expreſs'd both according to Matter and Form, little Rocks ſtanding where there are Rocks, and Sands and Beaches in the Places where they are found; and all the Iſlands planted in the Sea-channel in a due Form, and in their ſolid Dimenſions. Then upon the Land ſhould ſtand all the Ranges of Mountains, in the ſame Order or Diſorder that Nature hath ſet them there: And the in-land Seas, and great Lakes, or rather the Beds they lie in, ſhould be duly repreſented; as alſo the vaſt Deſarts of Sand as they lie upon the Earth. And this being done with Care and due Art, would be a true Epitome, or true Model of our Earth. Where we ſhould ſee, beſides other Inſtructions, what a rude Lump our World is, which we are ſo apt to dote upon.

CHAP. XII.

A ſhort Review of what hath been already treated of, and in what Manner. The ſeveral Faces and Schemes under which the Earth would appear to a Stranger, that ſhould view it firſt at a Diſtance, and then more cloſely, and the Application of them to our Subject. All Methods, whether philoſophical or theological, that have been offer'd by others for the Explication of the Form of the Earth, are examin'd and diſprov'd. A Conjecture concerning the other Planets, their natural Form and State compared with ours.

WE have finiſh'd the three Sections of this Book, and in this laſt Chapter we will make a ſhort Review and Reflection upon what hath been hitherto treated of, and add ſome further Confirmations of it. The Explication of the univerſal Deluge was the firſt Propoſal and Deſign of this Diſcourſe, to make that a Thing credible and intelligible to the Mind of Man: And the full Explication of this drew in the whole Theory of the Earth: Whoſe Original we have deduc'd from its firſt Source, and ſhew'd both what was its primæval Form, and how it came into its preſent Form. The Sum of our *Hypotheſis* concerning the univerſal Deluge was this; That it came not to paſs, as was vulgarly believ'd, by an Exceſs of Rains, or any Inundation of the Sea, nor could ever be effected by a mere Abundance of Waters; unleſs we ſuppoſe ſome Diſſolution of the Earth at the ſame time, namely, when the *Great Abyſs* was broken open. And accordingly we ſhewed that without ſuch a Diſſolution, or if the Earth had been always in the ſame Form it is in now, no Maſs of Water, any where to be found in the World, could have equall'd the Height of the Mountains, or made ſuch an univerſal Deluge. Secondly, We ſhewed that the Form of the Earth at firſt, and till the Deluge, was ſuch as made it capable and ſubject to a Diſſolution: And thirdly, That ſuch a Diſſolution being ſuppos'd, the Doctrine of the univerſal Deluge is very reaſonable and intelligible; and not only the Doctrine of the Deluge, but the ſame Suppoſition is a Key to all Nature beſides, ſhewing us how our Globe became terraqueous, what was the Original of Mountains, of the Sea-channel, of Iſlands, of ſubterraneous Cavities; things, which without this Suppoſition are as unintelligible as the univerſal Flood itſelf. And theſe things reciprocally confirming one another, our *Hypotheſis* of the Deluge is arm'd, both Breaſt and Back, by the Cauſes and by the Effects.

It remains now, that, as to confirm our Explication of the Deluge, we ſhew'd all other Accounts that had been given of it to be ineffectual or impoſſible, ſo to confirm our Doctrine concerning the Diſſolution of the Earth, and concerning the Original of Mountains, Seas, and all Inequalities upon it, or within it, we muſt examine what Cauſes have been aſſign'd by others, or what Accounts given of theſe things: That ſeeing their Defectiveneſs, we may have the more Aſſurance and Satisfaction in our own Method.

And in order to this, let us obſerve firſt the general Forms under which the Earth may be conſider'd, or under which it doth appear accordingly as we view it more nearly or remotely; and the firſt of theſe and the moſt general is that of a *Terraqueous Globe.* If a Philoſopher ſhould come out of another World out of Curioſity to ſee our Earth, the firſt Diſcovery or Obſervation he would make would be this, that it was a terraqueous Globe: Thus much he might obſerve at a great Diſtance when he came but near the Borders of our World. This we diſcern in the Moon and moſt of the Planets, that they are divided into Sea and Land, and how this Diviſion came, would be his firſt Remark and Inquiry concerning our Earth; and how alſo thoſe Subdiviſions of Iſlands, or little Earths which lie in the Water, how theſe were form'd, and that great Channel that contains them both.

The ſecond Form that the Earth appears under, is that of an uneven and *Mountainous Globe.* When our Traveller had got below the Circle of the Moon, he would diſcern the bald Tops of our Mountains, and the long Ranges of them upon our Continents. We cannot from the Earth diſcern Mountains and Valleys in the Moon directly, but from the Motion of the Light and Shadows which we ſee there, we eaſily collect that there are ſuch Inequalities: And accordingly we ſuppoſe that our Mountains would appear at a great Diſtance, and the ſhady Valleys lying under them; and that this curious Perſon that came to view our Earth, would make that his ſecond Inquiry, how thoſe Mountains were formed? and how our Globe came to be ſo rude and irregular? for we may juſtly demand how any Irregularity came into Nature, ſeeing all her firſt Motions and her firſt Forms are regular, and whatſoever is not ſo, is but ſecondary, and the Conſequence of ſome Degeneracy, or of ſome Decay.

The third viſible Form of our Earth is that of *a broken Globe*; and broken throughout, but in the outward Parts and Regions of it. This, it may be, you will ſay, is not a viſible Form; it doth not appear to the Eye, without reaſoning, that the Surface of the Earth is ſo broken. Suppoſe our new Viſitant had now paſs'd the middle Region of the Air, and was alighted upon the Top of Pick *Teneriffe* for his firſt reſting Place, and that ſitting there he took a View of the great Rocks, the wide Sea, and of the Shores of *Africk* and *Europe*; for we'll ſuppoſe his piercing Eye to reach ſo far; I will not ſay that at firſt Sight he would pronounce that the Surface of this Globe was broken, unleſs he knew it to be ſo by Compariſon with ſome other Planet like to it; but the broken Form and Figure of many Parts of the Rocks, and the Poſture in which they lay, or great Portions of them, ſome inclin'd, ſome proſtrate, ſome erected, would naturally lead him to that Thought, that they were a Ruin; he would ſee alſo the Iſlands tore from the Continents, and both the Shores of the Continents and their inland Parts in the ſame Diſorder and irregular Situation. Beſides, he had this great Advantage in viewing the Earth at a Diſtance, that he could ſee a whole Hemiſphere together, which, as he made his Approaches through the Air, would have much what the ſame Aſpect and Countenance as 'tis repreſented within the great Scheme, *Page* 203. And if any Man ſhould accidentally hit upon that Scheme, not knowing or thinking that it was the Earth, I believe his firſt Thought of it would be, that it was ſome great broken Body, or ruin'd Frame of Matter; and the Original, I am ſure, is more manifeſtly ſo. But we'll leave our ſtrange Philoſopher to his own Obſervations, and wiſh him good Guides and Interpreters in his Survey of the Earth, and that he would make a favourable Report at his Return home of our little dirty Planet.

In the mean time, let us purſue, in our own Way, this Third *Idea* of the Earth a little further, as it is *a broken Globe.* Nature I know hath diſſembled and cover'd this Form as much as may be, and Time hath help'd to repair ſome of the old Breaches, or fill them up; beſides, the Changes that have been made by Art and humane Induſtry, by Agriculture, planting, and building Towns, hath made the Face of the Earth quite another Thing from what it was in its naked Rudeneſs. As

Mankind is much alter'd from its priſtine State, from what it was four thouſand Years ago, or towards the firſt Ages after the Flood, when the Nations liv'd in Simplicity or Barbarouſneſs; ſo is the Earth too, and both ſo diſguis'd and transform'd, that if one of thoſe primitive Fathers ſhould riſe from the Dead, he would ſcarce know this to be the ſame World which he liv'd in before. But to diſcern the true Form of the Earth, whether intire or broken, regular or diſorder'd, we muſt in the firſt Place take away all thoſe Ornaments or Additions made by Art or Nature, and view the bare Carcaſs of the Earth, as it hath nothing on it but Rocks and Mountains, Deſarts and Fields, and hollow Valleys, and a wide Sea. Then ſecondly, We muſt in our Imagination empty this Channel of the Sea, take out all the Waters that hinder the Sight of it, and look upon the dry Ditch, meaſure the Depth and Breadth of it in our Mind, and obſerve the Manner of its Conſtruction, and in what a wild Poſture all the Parts of it lie; according as it hath been formerly repreſented, *Chap.* 10. And laſtly, We muſt take off the Cover of all ſubterraneous Places and deep Caverns, to ſee the inſide of the Earth; and lay bare the Roots of Mountains, to look into thoſe Holes and Vaults that are under them, fill'd ſometimes with Fire, ſometimes with Water, and ſometimes with thick Air and Vapours. The Object being thus prepar'd, we are then to look fixedly upon it, and to pronounce what we think of this disfigur'd Maſs, whether this exterior Frame doth not ſeem to be ſhatter'd; and whether it doth more aptly reſemble a new-made World, or the Ruins of one broken. I confeſs when this *Idea* of the Earth is preſent to my Thoughts, I can no more believe that this was the Form wherein it was firſt produc'd, than if I had ſeen the Temple of *Jeruſalem* in its Ruins, when defac'd and ſack'd by the *Babylonians*, I could have perſuaded myſelf that it had never been in any other Poſture, and that *Solomon* had given Orders for building it ſo.

So much for the Form of the Earth: It remains now that we examine what Cauſes have been aſſign'd by others of theſe Irregularities in the Form of the Earth, which we explain by the Diſſolution of it; what Accounts any of the Ancients have given, or attempted to give, how the Earth ſwell'd into Mountains in certain Places, and in others was depreſs'd into low Valleys, how the Body of it was ſo broken, and how the Channel of the Sea was made. The Elements naturally lie in regular Forms one above another, and now we find them mix'd, confounded and tranſpos'd, how comes this Diſturbance and Diſordination in Nature? The Explications of theſe Things that have been given by others, may be reduc'd to two general Sorts, *Philoſophical* or *Theological*, and we will try them both for our Satisfaction.

Of Philoſophers none was more concern'd to give an Account of ſuch Things than *Epicurus*, both becauſe he acknowledged the Origin of the Earth to have been from a *Chaos*, and alſo admitted no Cauſes to act in Nature but Matter and Motion: Yet all the Account we have from the *Epicureans* of the Form of the Earth, and the great Inequalities that are in it, is ſo ſlight and trivial, that methinks it doth not deſerve the Name of a philoſophical Explication. They ſay that the Earth and Water were mix'd at firſt, or rather the Earth was above the Water, and as the Earth was condens'd by the Heat of the Sun and the Winds, the Water was ſqueez'd out in certain Places, which either it found hollow or made ſo; and ſo was the Channel of the Sea made. Then as for Mountains, while ſome Parts of the Earth ſhrunk and ſunk in this Manner, others would not ſink; and theſe ſtanding ſtill while the others fell lower, made the Mountains. How the ſubterraneous Cavities were made according to them, I do not find.

This is all the Account that *Monſieur Gaſſendi* (who ſeems to have made it his Buſineſs, as well as his Pleaſure, to embelliſh that Philoſophy) can help us to out of the *Epicurean* Authors, how the Earth came into this Form; and he that can content himſelf with this, is, in my Mind, of an Humour very eaſy to be pleas'd. Do the Sun and the Wind uſe to ſqueeze Pools of Water out of the Earth, and that in ſuch a Quantity as to make an Ocean? They dry the Earth, and the Waters too, and rarify them into Vapours, but I never knew them to be the Cauſes of preſſing Water out of the Earth by Condenſation.

Could they compreſs the Earth any otherwiſe, than by drying it and making it hard? and in Proportion, as it was more dry, would it not the more imbibe and ſuck up the Water? and how were the great Mountains of the Earth made in the North and in the South, where the Influence of the Sun is not great? What ſunk the Earth there, and made the Fleſh ſtart from the Bones? But 'tis no Wonder that *Epicurus* ſhould give ſuch a mean Account of the Origin of the Earth, and the Form of its Parts, who did not ſo much as underſtand the general Figure of the Body of it, that it was in ſome manner Spherical, or that the Heavens encompaſs'd it round. One muſt have a blind Love for that Philoſophy, and for the Concluſions it drives at, not to ſee its Lameneſs and Defects in thoſe firſt and fundamental Parts.

Ariſtotle, though he was not concern'd to give an Account how the Earth came into this preſent Form, as he ſuppos'd it Eternal; yet upon another Conſideration he ſeems oblig'd to give ſome Reaſon how the Elements came into this Diſorder; ſeeing he ſuppoſeth, that, according to the Order of Nature, the Water ſhould lie above the Earth in a Sphere, as the Air doth above the Water, and his Fire above the Air. This he toucheth upon in his Meteors, but ſo gently and fearfully, as if he was handling hot Coals. He ſaith the Sea is to be conſider'd as the Element, or Body of Waters that belongs to this Earth, and that theſe Waters change Places, and the Sea is ſome Ages in one Part of the Globe, and ſome Ages in another; but that this is at ſuch great Diſtances of Time that there can be no Memory or Record of it. And he ſeems willing to ſuppoſe that the Water was once all over the Earth, but that it dry'd up in certain Places, and continuing in others, it there made the Sea.

What a miſerable Account is this? As to his Change or Removal of the Sea-channel in ſeveral Ages, as it is without all Proof or Probability, if he mean it of the Channel of the great Ocean, ſo 'tis nothing to the purpoſe here; for the Queſtion is not why the Channel of the Sea is in ſuch a Part of the Earth, rather than in another, but why there is any ſuch prodigious Cavity in or upon the Earth any where. And if we take his Suppoſition, that the Element of Water was once higher than the Earth, and lay in a Sphere about it, then let him tell us in plain Terms how the Earth got above, or how the Cavity of the Ocean was made, and how the Mountains riſe; for this Elementary Earth which lay under the Water, was, I ſuppoſe, equal and ſmooth when it lay there; and what reaſon was there, that the Waters ſhould be dry'd in one Part of it, more than another, if they were every where of an equal Depth, and the Ground equal under them? It was not the Climates made any Diſtinction, for there is Sea towards the Poles, as well as under the Æquator; but ſuppoſe they were dry'd up in certain Places, that would make no Mountains, no more than there are Mountains in our dry'd Marſhes:

And the Places where they were not dry'd, would not therefore become as deep and hollow as the Sea-channel, and tear the Earth and Rocks in pieces. If you ſhould ſay that this very elementary Earth, as it lay under the Waters, was unequal, and was ſo originally form'd into Mountains and Valleys, and great Cavities; beſides that the Suppoſition is altogether irrational in itſelf, you muſt ſuppoſe a prodigious Maſs of Water to cover ſuch an Earth; as much as we found requiſite for the vulgar Deluge, namely, eight Oceans; and what then is become of the other ſeven? Upon the whole I do no not ſee that either in *Epicurus*'s way, who ſeems to ſuppoſe that the Waters were at firſt within the Earth; nor in *Ariſtotle*'s Way, who ſeems to ſuppoſe them upon the Earth, any rational or tolerable Account can be given of the preſent Form of the Earth.

Wherefore ſome modern Authors, diſſatisfied, as very well they might be, with theſe Explications given us by the Ancients concerning the Form of the Earth, have pitch'd upon other Cauſes, more true indeed in their kind, and in their degree, but that fall as much ſhort of thoſe Effects to which they would apply them. They ſay that all the Irregularities of the Body of the Earth have riſen from Earthquakes in particular Places, and from Torrents and Inundations, and from Eruptions of Fire, or ſuch like Cauſes, whereof we ſee ſome Inſtances more or leſs every Age; and theſe have made that havock upon the Face of the Earth, and turn'd Things upſide down, raiſing the Earth in ſome Places, and making great Cavities or Chaſms in others, ſo as to have brought it at length into that torn, broken, and diſorderly Form in which we now ſee it.

Theſe Authors do ſo far agree with us, as to acknowledge that the preſent irregular Form of the Earth muſt have proceeded from Ruins and Diſſolutions of one ſort or other; but theſe Ruins they make to have been partial only, in this or in that Country, by piecemeal, and in ſeveral Ages, and from no other Cauſes but ſuch as ſtill continue to act in Nature, namely, accidental Earthquakes and Eruptions of Fires and Waters. Theſe Cauſes we acknowledge as readily as they do, but not as capable to produce ſo great Effects as they would aſcribe to them; the Surface of the Earth may be a little changed by ſuch Accidents as theſe, but for the moſt part they rather ſink the Mountains than raiſe new ones: As when Houſes are blown up by Mines of Powder, they are not ſet higher, but generally fall lower and flatter: Or ſuppoſe they do ſometimes raiſe an Hill, or a little Mount, what's that to the great Mountains of our World, to thoſe long and vaſt Piles of Rocks and Stones, which the Earth can ſcarce bear? What's that to ſtrong-backt *Taurus* or *Atlas*, to the *American Andes*, or to a Mountain that reacheth from the *Pyreneans* to the *Euxine* Sea? There's as much Difference between theſe and thoſe factitious Mountains they ſpeak of, as betwixt them and Mole-hills, And to anſwer more diſtinctly to this Opinion, as before in ſpeaking of Iſlands we diſtinguiſh'd betwixt factitious and original Iſlands, ſo, if you pleaſe, we may diſtinguiſh here betwixt factitious and original Mountains; and allowing ſome few, and thoſe of the fifth or ſixth Magnitude, to have riſen from ſuch accidental Cauſes, we enquire concerning the reſt and the greateſt, what was their Original? If we ſhould ſuppoſe that the ſeven Hills upon which *Rome* ſtands came from Ruins or Eruptions, or any ſuch Cauſes, it doth not follow that the *Alps* were made ſo too. And as for Mountains, ſo for the Cavities of the Earth, I ſuppoſe there may be Diſruptions ſometimes made by Earthquakes, and Holes worn by ſubterraneous Fires and Waters; but what's that to the Channel of the *Atlantick Ocean*, or of the *Pacifick Ocean*, which is extended an hundred and fifty Degrees under the Æquator, and towards the Poles ſtill further? He that ſhould derive ſuch mighty Things from no greater Cauſes, I ſhould think him a very credulous Philoſopher. And we are too ſubject indeed to that Fault of Credulity in matter of Philoſophizing: Many when they have found out Cauſes that are proper for certain Effects within ſuch a Compaſs, they cannot keep them there, but they will make them do every Thing for them; and extend them often to other Effects of a ſuperior Nature or Degree, which their Activity can by no means reach to. *Ætna* hath been a burning Mountain ever ſince, and above the Memory of Man, yet it hath not deſtroy'd that Iſland, nor made any new Channel to the Sea, tho' it ſtands ſo near it. Neither is *Veſuvius* above two or three Miles diſtant from the Sea-ſide, to the beſt of my Remembrance, and yet in ſo many Ages it hath made no Paſſage to it, neither open nor ſubterraneous. 'Tis true, ſome *Iſthmus's* have been thrown down by Earthquakes, and ſome Lakes have been made in that manner, but what's this to a Ditch nine thouſand Miles broad? ſuch an one we have upon the Earth, and of a Depth that is not meaſurable; what Proportion have theſe Cauſes to ſuch an Inſtance? and how many thouſand Ages muſt be allow'd to them to do their Work, more than the Chronology of our Earth will bear?

Beſides, When were theſe great Earthquakes and Diſruptions, that did ſuch great Execution upon the Body of the Earth? Was this before the Flood or ſince? If before, then the old Difficulty returns, how could there be a Flood, if the Earth was in this mountainous Form before that Time? This, I think, is demonſtrated impoſſible in the ſecond and third Chapters. If ſince the Flood, where were the Waters of the Earth before theſe Earthquakes made a Channel for them? Beſides, where is the Hiſtory or Tradition that ſpeaks of theſe ſtrange Things, and of this great Change of the Earth? Hath any writ of the Origins of the *Alps*? In what Year of *Rome*, or what *Olympiad* they were born? Or how they grew from little ones? How the Earth groan'd when it brought them forth, when its Bowels were torn by the ragged Rocks? Do the Chronicles of the Nations mention theſe Things, or ancient Fame, or ancient Fables? were they made all at once, or in ſucceſſive Ages? Theſe Cauſes continue ſtill in Nature; we have ſtill Earthquakes and ſubterraneous Fires and Waters, why ſhould they not ſtill operate and have the ſame Effects? We often hear of Cities thrown down by Earthquakes, or Countries ſwallow'd up; but who ever heard of a new Chain of Mountains made upon the Earth, or a new Channel made for the Ocean? We do not read that there hath been ſo much as a new *Sinus* of the Sea ever ſince the Memory of Man: Which is far more feaſible than what they pretend. And Things of this Nature being both ſtrange and ſenſible, excite Admiration and great Attention when they come to paſs, and would certainly have been remembred or propagated in ſome Way or other, if they had ever happen'd ſince the Deluge. They have recorded the Foundation of Cities and Monarchies, the Appearance of Blazing Stars, the Eruptions of fiery Mountains, the moſt remarkable Earthquakes and Inundations, the great Eclipſes or Obſcurations of the Sun, and any Thing that look'd ſtrange or Prodigy-like, whether in the Heavens or on Earth: And theſe, which would have been the greateſt Prodigies and greateſt Changes that ever happen'd in Nature, would theſe have eſcap'd all Obſervation and Memory of Men? That's as incredible as the things themſelves are.

Laſtly, To comprehend all theſe Opinions together, both of the Ancient and Modern Authors, they ſeem all to agree with us in this, *That* the Earth was once under another Form; otherwiſe why do they go about to ſhew the Cauſes how it came into this Form? I deſire then to know what Form they ſuppoſe the Earth to have been under before the Mountains were made, the Channel of the Sea, or ſubterraneous Cavities. Either they muſt take that Form which we have aſſign'd it before the Deluge, or elſe they muſt ſuppoſe it cover'd with Water, till the Sea-channels were made, and the Mountains brought forth; as in *Fig.* 2. *p.* 76. And no doubt it was once in this Form, both Reaſon and the Authority of *Moſes* aſſure us of it; and this is the Teſt which every Opinion muſt be brought to, *how* the Earth emerg'd out of that Watry Form? and in particular, as to that Opinion which we are now examining, the Queſtion is, *how* by Earthquakes, and fiery Eruptions, ſubterraneous Waters, and ſuch like Cauſes, the Body of the Earth could be wrought from that Form to this preſent Form? And the thing is impoſſible at firſt ſight; for ſuch Cauſes as theſe could not take place in ſuch an Earth. As for ſubterraneous Waters, there could be none at that time, for they were all above ground; and as for ſubterraneous Exhalations, whether fiery or aery, there was no place for them neither; for the Earth, when it lay under the Water, was a ſolid uniform Maſs, compact and cloſe united in its parts, as we have ſhewn before upon ſeveral Occaſions; no Mines or hollow Vaults for the Vapours to be lodg'd in, no Store-houſes of Fire; nothing that could make Earthquakes, nor any ſort of Ruins or Eruptions: Theſe are Engines that cannot play but in an Earth already broken, hollow and cavernous. Therefore the Authors of this Opinion do in Effect beg the Queſtion; they aſſign ſuch Cauſes of the preſent Form of the Earth, as could not take Place, nor have any Activity until the Earth was in this Form: Theſe Cauſes may contribute ſomething to increaſe the Rudeneſs and Inequalities of the Earth in certain Places, but they could not be the original Cauſes of it: And that not only becauſe of their Diſproportion to ſuch Effects, but alſo becauſe of their Incapacity, or Non-exiſtence at that time when theſe Effects were to be wrought.

Thus much concerning the Philoſophical Opinions or the natural Cauſes that have been aſſign'd for the irregular Form of this preſent Earth. Let us now conſider the Theological Opinions, how Mountains were made at firſt, and the wonderful Channel of the Sea: And theſe Authors ſay, God Almighty made them immediately when he made the World; and ſo diſpatch'd the Buſineſs in a few Words. This is a ſhort Account indeed, but we muſt take heed that we do not derogate from the Perfection of God, by aſcribing all Things promiſcuouſly to his immediate Action. I have often ſuggeſted that the firſt Order of things is regular and ſimple, according as the Divine Nature is; and continues ſo till there is ſome Degeneracy in the moral World; I have alſo noted upon ſeveral Occaſions, eſpecially in the *Lat. Treat. Cap.* 11. the Deformity and Incommodiouſneſs of the preſent Earth; and from theſe two Conſiderations we may reaſonably infer, that the preſent State of the Earth was not Original, but is a State of Subjection to Vanity, wherein it muſt continue till the Redemption and Reſtitution of all things.

But beſide this general Conſideration, there are many others, both Natural and Theological, againſt this Opinion, which the Authors of it, I believe, will find unanſwerable. As firſt, St. *Peter*'s Diſtinction betwixt the preſent Earth and the Antediluvian; 2 *Ep. Chap.* 3. 5, 6. and that in Oppoſition to certain profane Perſons, who ſeem to have been of the ſame Opinion with theſe Authors, namely, That the Heavens and the Earth were the ſame now that they had been from the beginning, and that there had been no Change in Nature, either of late, or in former Ages; Theſe St. *Peter* confutes and upbraids them with Ignorance or Forgetfulneſs of the Change that was brought upon Nature at the Deluge, or that the Antediluvian Heavens and Earth were of a different Form and Conſtitution from the preſent, whereby that World was obnoxious to a Deluge of Water, as the preſent is to a Deluge of Fire. Let theſe Authors put themſelves in the Place of thoſe Objectors, and ſee what Anſwer they can make to the Apoſtle, whom I leave to diſpute the Caſe with them. I hope they will not treat this Epiſtle of St. *Peter's* ſo rudely as *Didymus Alexandrinus* did, an ancient Chriſtian, and one of St. *Jerom's* Maſters; he was of the ſame Opinion with theſe Theological Authors, and ſo fierce in it, that ſeeing St. *Peter's* Doctrine here to be contrary, he ſaid this Epiſtle of St. *Peter's* was corrupted, and was not to be receiv'd into the Canon. And all this becauſe it taught that the Heavens and the Earth had chang'd their Form, and would do ſo again at the Conflagration; ſo as the ſame World would be triform in Succeſs of Time. We acknowledge his Expoſition of St. *Peter's* Words to be very true; but what he makes an Argument of the Corruption of this Epiſtle, is rather, in my Mind, a peculiar Argument of its Divine Inſpiration. In the ſecond Place, theſe Writers daſh upon the old Rock, the Impoſſibility of explaining the Deluge; if there were Mountains from the Beginning, and the Earth then in the ſame Form as it is in now. Thirdly, They make the State of *Paradiſe* as unintelligible as that of the Deluge; For thoſe Properties that are aſſign'd to *Paradiſe* by the Ancients, are inconſiſtent with the preſent Form of the Earth: As will appear in the Second Book. Laſtly, They muſt anſwer, and give an Account of all thoſe Marks which we have obſerv'd in Nature (both in this Chapter, and the Ninth, Tenth, and Eleventh,)

venth,) of Fractions, Ruins, and Diſſolutions that have been on the Earth, and which we have ſhewn to be inexplicable, unleſs we admit that the Earth was once in another Form.

Theſe Arguments being premis'd, let us now bring their Opinion cloſe to the Teſt, and ſee in what manner theſe Mountains muſt have been made according to them, and how the Channel of the Sea, and all other Cavities of the Earth. Let us to this purpoſe conſider the Earth again in that tranſient incompleat Form which it had when the Abyſs encompaſt the whole Body of it, *Fig.* 2. *p.* 76. we both agree that the Earth was once in this State, and they ſay that it came immediately out of this State into its preſent Form, there being made by a ſupernatural Power a great Channel or Ditch in one part of it, which drew off the Waters from the reſt, and the Earth which was ſqueez'd and forc'd out of this Ditch, made the Mountains. So there is the Channel of the Sea made, and the Mountains of the Earth; how the ſubterraneous Cavities were made according to theſe Authors, I do not well know. This I confeſs ſeems to me a very groſs Thought, and a way of working very un-God-like; but however let's have Patience to examine it.

And in the firſt Place, if the Mountains were taken out of the Channel of the Sea, then they are equal to it, and would fill it up if they were thrown in again. But theſe Proportions upon Examination will not agree; for though the Mountains of the Earth be very great, yet they do not equal by much the great Ocean. The Ocean extends to half the Surface of the Earth; and if you ſuppoſe the greateſt Depth of the Ocean to anſwer the Height of the greateſt Mountains, and the middle Depth to the middle ſort of Mountains, the Mountains ought to cover all the dry Land to make them anſwer to all the Capacity of the Ocean; whereas we ſuppos'd them upon a reaſonable Computation to cover but the tenth part of the dry Land; and conſequently, neither they, nor the Sea-channel, could have been produc'd in this manner, becauſe of their great Diſproportion to one another. And the ſame thing appears, if we compare the Mountains with the Abyſs, which cover'd the Earth before this Channel was made; for this Channel being made great enough to contain all the Abyſs, the Mountains taken out of it muſt alſo be equal to all the Abyſs; but the aggregate of the Mountains will not anſwer this by many Degrees; for ſuppoſe the Abyſs was but half as deep as the deep Ocean, to make this Calculus anſwer, all the dry Land ought to be cover'd with Mountains, and with Mountains as high as the Ocean is deep, or doubly high to the Depth of the Abyſs, becauſe they are but upon one half of the Globe. And this is the firſt Argument againſt the Reciprocal Production of Mountains and the Sea, their Incongruency or Diſproportion.

Secondly, we are to conſider that a great many Mountains of the Earth are far diſtant from any Seas, as the great In-land Mountains of *Aſia* and of *Africk*, and the *Sarmatick* Mountains, and others in *Europe*; how were theſe great Bodies flung thorough the Air from their reſpective Seas, whence they were taken, to thoſe Places where they ſtand? What Appearance is there in common Reaſon, or Credibility, that theſe huge Maſſes of Earth and Stone, that ſtand in the middle of Continents, were dug out of any Seas? We think it ſtrange, and very deſervedly, that a little Chapel ſhould be tranſported from *Paleſtine* to *Italy* over Land and Sea, much more the Tranſportation of Mount *Atlas* or *Taurus* thorough the Air, or of a Range of Mountains two or three thouſand Miles long, would ſurely upon all Accounts appear incongruous and incredible: Beſides, neither the hollow Form of Mountains, nor the ſtony Matter whereof they commonly conſiſt, agrees with that Suppoſition, that they were preſt or taken out of the Channel of the Sea.

Laſtly, we are to conſider that the Mountains are not barely laid upon the Earth, as a Tomb-ſtone upon a Grave, nor ſtand as Statues do upon a Pedeſtal, as this Opinion ſeems to ſuppoſe; but they are one continued Subſtance with the Body of the Earth, and their Roots reach into the Abyſs; as the Rocks by the Sea-ſide go as deep as the bottom of the Sea in one continu'd Maſs: And 'tis a ridiculous thing to imagine the Earth firſt a plain Surface, then all the Mountains ſet upon it, as Hay-cocks in a Field, ſtanding upon their flat bottoms. There is no ſuch common Surface in Nature, nor conſequently any ſuch Super-additions: 'Tis all one Frame or Maſs, only broken and disjointed in the Parts of it. To conclude, 'Tis not only the Mountains that make the Inequalities of the Earth, or the Irregularity of its Surface, every Country, every Province, every Field hath an unequal and different Situation, higher or lower, inclin'd more or leſs, and ſometimes one way, ſometimes another, you can ſcarce take a Mile's Compaſs in any Place where the Surface of the Ground continues uniform; and can you imagine that there were Moulds or Stones brought from the Sea-channel to make all thoſe Inequalities? Or that Earthquakes have been in every County, and in every Field? The inner Veins and Lares, the Beds or Strata of the Earth are alſo broken as well as the Surface. Theſe muſt proceed from univerſal Cauſes; and all thoſe that have been alledg'd, whether from Philoſophy or Theology, are but particular or topical. I am fully ſatisfied, in Contemplation of theſe Things, and ſo I think every unprejudic'd Perſon may be, that to ſuch an irregular Variety of Situation and Conſtruction, as we ſee every where in the Parts of the Earth, nothing could anſwer but ſome univerſal Concuſſion or Diſlocation, in the Nature of a general Ruin.

We have now finiſh'd this firſt Part of our Theory, and all that concerns the Deluge or Diſſolution of the Earth; and we have not only eſtabliſh'd our own *Hypotheſis* by poſitive

Arguments, but alſo produc'd and examin'd all Suppoſitions that have been offer'd by others, whether philoſophical or theological, for the Explication of the ſame Things; ſo as nothing ſeems now to remain further upon this Subject. For a Concluſion of all, we will conſider, if you pleaſe, the reſt of the Earths, or of the Planets within our Heavens, that appertain to the ſame common Sun; to ſee, ſo far as we can go by rational Conjectures, if they be not of the ſame Fabrick, and have undergone the like Fate, and Forms with our Earth. It is now acknowledg'd by the generality of learned Men, that the Planets are opake Bodies,and particularly our next Neighbour, the Moon, is known to be a terraqueous Globe, conſiſting of Mountains and Valleys, as our Earth does; and we have no Reaſon to believe but that ſhe came into that Form by a Diſſolution, or from like Cauſes, as our Earth did. *Mercury* is ſo near the Sun, that we cannot well diſcern his Face, whether ſpotted or no, nor make a Judgment of it. But as for *Venus*, and *Mars*, if the Spots that be obſerv'd in them be their Waters or their Sea, as they are in the Moon, 'tis likely they are alſo terraqueous Globes, and in much what a like Form with the Moon and the Earth, and, for ought we know, from like Cauſes. Particularly as to *Venus*, 'tis a remarkable Paſſage that St. *Auſtin* (*De Civ. Dei*, *lib.* 21. *c.* 8.) hath preſerv'd out of *Varro*: He ſaith, That *about the time of the great Deluge there was a wonderful Alteration or Cataſtrophe* *happen'd to the Planet* Venus, *and that ſhe chang'd her Colour, Form, Figure, and Magnitude.* This is a great Preſumption that ſhe ſuffer'd her Diſſolution about the ſame time that our Earth did. I do not know that any ſuch Thing is recorded concerning any of the other Planets, but the Body of *Mars* looks very rugged, broken, and much diſorder'd.

Saturn and *Jupiter* deſerve a diſtinct Conſideration, as having ſomething particular and different from the reſt of the Planets; *Saturn* is remarkable for his Hoop or Ring, which ſeems to ſtand off, or higher than his Body, and would ſtrongly induce one to believe, that the exterior Earth of that Planet, at its Diſſolution, did not all fall in, but the polar Parts ſinking into the Abyſs, the middle or æquinoctial Parts ſtill ſubſiſted, and bore themſelves up in the Nature of an Arch about the Planet, or of a Bridge, as it were, built over the Sea of *Saturn.* And as ſome have obſerv'd concerning the Figure of *Jupiter*, that it is not wholly Sphærical, but a Sphæroid, protuberant in the Æquator, and depreſs'd towards the Poles: So I ſhould ſuſpect *Saturn* to have been much more ſo, before his Diſruption: Namely, That the Body of that Planet, in its firſt State, was more flat and low towards the Poles, and alſo weaker and thinner; and about the Æquator higher, fuller and ſtronger built: By reaſon of which Figure and Conſtruction the Polar Parts did more eaſily fall in, or were ſuckt in (as Cupping Glaſſes draw in the Fleſh) when the Abyſs below grew more empty.

Whereas the middle parts about the Æquator, being a more juſt Arch and ſtrongly built, would not yield or ſink, but ſtood firm and unbroken, and continues ſtill in its firſt Poſture. Planets break in different ways, according to the Quality of their Matter, the manner of their Conſtruction, and the nature of the Cauſes that act upon them. Their Diſſolutions are ſometimes total, as in our Earth, ſometimes partial: and both of theſe may be under great Variety. In partial Diſſolutions, the middle Parts ſometimes ſtand, and the Polar are broke: or the Polar ſtand, and the middle are broke. Or one Hemiſphere, or part of an Hemiſphere may be ſunk, the reſt ſtanding. There may be Cauſes and Occaſions for all theſe Varieties and many more, in diverſifying the Phænomena of an immenſe Univerſe. But to return to *Saturn.*

That this preſent uncouth Form of *Saturn* was not its Original Form, I am very well ſatisfied, if that Planet roſe from a Chaos, as ours did. And if this be an adventitious Form, I know no Account can be given of it with more Probability, than by ſuppoſing it the Effect of ſome Fraction or Diſruption in the Polar Parts. Neither do I know any Phænomenon hitherto obſerv'd concerning *Saturn*, that does diſprove this *Hypotheſis* or Conjecture.

As to *Jupiter*, that Planet without doubt is alſo turn'd about its Axis, otherwiſe how ſhould its four Moons be carried round him? And this is alſo collected from the Motion of that permanent Spot (if it be found to be ſo) that is upon its Body. Which Spot I take to be either a Lake, or a Chaſm and *Hiatus* into the Abyſs of the Planet: That is, part of the Abyſs open or uncover'd, like the Aperture we made in the Seventh Figure, *Chap. 6. p.* 184. And this might either have been left ſo by Providence, at firſt, for ſome Reaſons and Cauſes fitting that Earth: or it may have fallen in afterwards, as *Plato*'s *Atlantis*, or as *Sodom* and *Gomorrha*, for ſome Judgment upon part of that World.

To conclude, Seeing all the Planets that are plac'd in this Heaven, and are the Foſter-children of this Sun, ſeem to have ſome Affinity one with another, and have much what the ſame Countenance, and the ſame general *Phænomena*; it ſeems probable that they riſe much what the ſame way, and after the like manner as our Earth, each one from its reſpective Chaos; And that they had the ſame Elementary Regions at firſt, and an exterior Orb form'd over their Abyſs: And laſtly, That every one of them hath ſuffer'd, or is to ſuffer its Deluge, as our Earth hath done. Theſe, I ſay, are probable Conjectures according to the Analogy of Reaſon and Nature, ſo far as we can judge concerning things very remote and inacceſſible.

And theſe Things being thus, and our Theory of the Deluge, and the Diſſolution which brought it, having ſuch a general Agreement both with our Heavens and our Earth, I think there is nothing but the Uncouthneſs of the thing to ſome Men's Underſtandings, the

Cuſtom of thinking otherwiſe, and the Uneaſineſs of entring into a new ſet of Thoughts, that can be a Bar or Hindrance to its Reception. But it may be improv'd, I doubt not, in many Reſpects, and in ſome Particularities rectified. The firſt Attempts in great Things are ſeldom or never perfect: Such is the Weakneſs of our Underſtandings, and the want of a full Natural Hiſtory. And in aſſigning Cauſes of ſuch great Effects, fair Conjectures are to be allow'd, till they be diſplac'd by others more evident and more certain. Accordingly I readily ſubmit to theſe Terms, and leave this, and all other Parts of the Theory, to further Examination and Enquiries.

THE THEORY OF THE EARTH.

BOOK II.

Concerning the Primæval Earth, and concerning *Paradiſe.*

CHAP. I.

The Introduction and Contents of the Second Book. The general State of the Primæval Earth, and of Paradiſe.

WE have already ſeen a World begin and periſh ; an Earth rais'd from the Rudiments of a Chaos, and diſſolv'd and deſtroy'd in an Univerſal Deluge. We have given alſo an imperfect Deſcription of that Primæval Earth, ſo far as was neceſſary to ſhew the Cauſes and Manner of its Diſſolution. But we muſt not content our ſelves with this; Seeing that Earth was the firſt Theatre upon which Mortals appear'd and acted, and continued ſo for above ſixteen hundred Years; and that with Scenes, as both Reaſon and Hiſtory tell us, very extraordinary and very different from theſe of our preſent Earth, 'tis reaſonable we ſhould endeavour to make a more full Diſcovery and Deſcription of it; eſpecially ſeeing *Paradiſe* was there; that Seat of Pleaſure which our firſt Parents loſt, and which all their Poſterity have much ado to find again.

In the Firſt Book we ſo far deſcrib'd this new-found World, as to ſhew it very different in Form and Fabrick from the preſent Earth; there was no Sea there, no Mountains, nor Rocks, nor broken Caves, 'twas all one continued and regular Maſs, ſmooth, ſimple and compleat, as the firſt Works of Nature uſe to be. But to know thus much only, doth rather excite our Curioſity than ſatisfy it; what were the other Properties of this World? How were the Heavens, how the Elements? What Accommodation for Human Life? Why was it more proper to be the Seat of *Paradiſe* than the preſent Earth? Unleſs we know theſe Things, you will ſay, it will ſeem but an aëry *Idea* to us; and 'tis certain that the more Properties and Particularities that we know concerning any thing, the more real it appears to be.

As it was our chief Deſign therefore in the precedent Book, to give an Account of the Univerſal Deluge, by way of a Theory; ſo we propoſe to our ſelves chiefly in this Book, from the ſame Theory to give an Account of *Paradiſe*; and in performing of this, we ſhall be led into a more full Examination and Diſplay of that firſt Earth, and of its Qualities. And if we be ſo happy, as, by the Conduct of the ſame Principles and the ſame Method, to give as fair an Account, and as intelligible of the State of *Paradiſe* in that Original Earth, as we have done of the Deluge by the Diſſolution of it, and of the Form of this Earth which ſucceeded, one muſt be very moroſe or melancholy to imagine that the grounds we go upon, all this while, are wholly falſe or fictitious. A Foundation which will bear the Weight of two Worlds without ſinking, muſt ſurely ſtand upon a firm Rock. And I am apt to promiſe my ſelf that this Theory of the Earth will find Acceptance and Credit, more or leſs, with all but thoſe, that think it a ſufficient Anſwer to all Arguments, to ſay *it is a Novelty*.

But to proceed in our Diſquiſition concerning *Paradiſe*, we may note, in the firſt Place, two Opinions to be avoided, being both extreams; one that placeth *Paradiſe* in the extra-mundane Regions, or in the Air, or in the Moon; and the other that makes it ſo inconſiderable, as to be confin'd to a little Spot of Ground in *Meſopotamia*, or ſome other Country of *Aſia*, the Earth being now as it was then. This offends as much in the Defect, as the other in the Exceſs. For it is not any ſingle Region of the Earth that can be *Paradiſiacal*, unleſs all Nature conſpire, and a certain Order of Things proper and peculiar for that State. Nor is it of leſs Importance to find out this peculiar Order of Things, than to find out the particular Seat of *Paradiſe*, but rather pre-requiſite to it: We will endeavour therefore to diſcover and determine both, ſo far as a Theory can go, beginning with that which is more general.

'Tis certain there were ſome Qualities and Conditions of *Paradiſe* that were not meerly topical, but common to all the reſt of the Earth at that time; and theſe we muſt conſiderin the firſt Place, examine what they were, and upon what they depended. Hiſtory, both Sacred and Profane, muſt tell us what they were, and our Theory muſt ſhew us upon what Cauſes they depended. I had once, I confeſs, propos'd to my ſelf another Method, independent upon Hiſtory or Effects; I thought to have continued the Deſcription of the Primitive or Antediluvian Earth from the Contemplation of its Cauſes only, and then left it to the Judgment of others to determine, whether that was not the Earth where the Golden Age was paſt, and where *Paradiſe* ſtood. For I had obſerv'd three Conditions or Characters of it, which I thought were ſufficient to anſwer all that we knew concerning that firſt State of Things, viz. *The Regularity of its Surface; The Situation or Poſture of* *its Body to the Sun*; *and the Figure of it*: From theſe three general Cauſes I thought might be deduc'd all the chief Differences of that Earth from the preſent, and particularly thoſe that made it more capable of being *Paradiſiacal*.

But upon ſecond Thoughts I judg'd it more uſeful and expedient to lay aſide the Cauſes at preſent, and begin with the Effects, that we might have ſome ſenſible Matter to work upon. Bare *Idea*'s of Things are lookt upon as Romantick till Effects be propos'd, whereof they are to give an Account; 'Tis that makes us value the Cauſes when Neceſſity puts us upon Enquiry after them; and the Reaſons of things are very acceptable, when they eaſe the Mind, anxious, and at a loſs how to underſtand Nature without their help. We will therefore, without more ado, premiſe thoſe things that have been taken notice of as extraordinary and peculiar to the firſt Ages of the World, and to *Paradiſe*, and which neither do, nor can, obtain in the preſent Earth; whereof the firſt is a *perpetual Spring or Æquinox*; the ſecond, the *Longævity of Animals*; and the third, *their Production out of the Earth*, and the great Fertility of the Soil in all other Things.

Theſe Difficulties guard the way to *Paradiſe* like the flaming Sword, and muſt be remov'd before we can enter; theſe are general Preliminaries which we muſt explain before we proceed to enquire after the particular place of this Garden of Pleaſure. The Ancients have taken Notice of all theſe in the firſt Ages of the World, or in their *Golden Age*, as they call it; and I do not doubt but what they aſcribe to the Golden Age, was more remarkably true of *Paradiſe*; yet was not ſo peculiar to it, but that it did in a good Meaſure extend to other Parts of the Earth at that time. And 'tis manifeſt that their Golden Age was contemporary with our *Paradiſe*; for they make it begin immediately after the Production and Inhabitation of the Earth (which they, as well as *Moſes*, raiſe from the Chaos) and to degenerate by degrees till the Deluge; when the World ended and begun again.

That this Parallel may the better appear, we may obſerve, that as we ſay that the whole Earth was, in ſome Senſe, Paradiſiacal in the firſt Ages of the World, and that there was, beſides, one Region or Portion of it that was peculiarly ſo, and bore the Denomination of *Paradiſe*; So the Ancients, beſide their Golden Age, which was common to all the Earth, noted ſome Parts of it that were more Golden, if I may ſo ſay, than the reſt, and which did more particularly anſwer to *Paradiſe*; as their *Elyſian* Fields, Fortunate Iſlands, Gardens of *Heſperides*, *Alcinous*, *&c.* theſe had a double Portion of Pleaſantneſs, and, beſide the Advantages which they had common with the reſt of the Earth at that time, had ſomething proper and ſingular, which gave them a diſtinct Conſideration and Character from the reſt.

Having made this Obſervation, let us proceed, and ſee what Antiquity ſaith, concerning that firſt and Paradiſiacal State of things, upon thoſe three Heads forementioned; Firſt, that there was a perpetual Spring, and conſtant Serenity of the Air. This is often repeated by the Ancient Poets, in their Deſcription of the Golden Age.

Non alios prima creſcentis origine mundi
Illuxiſſe dies, aliumve habuiſſe tenorem,
Crediderim: Ver illud erat, Ver magnus agebat
Orbis, & hybernis parcebant flatibus Euri.
Virgil.

Such Days the new-born Earth enjoy'd of old,
And the calm Heavens in this ſame Tenor rowl'd:
All the great World had then one conſtant Spring,
No cold Eaſt-winds, ſuch as our Winters bring.

For I interpret this in the ſame Senſe with *Ovid*'s Verſes of the Golden Age:

Ver erat Æternum: placidique tepentibus auris
Mulcebant Zephyri natos ſine ſemine flores.

The Spring was conſtant, and ſoft Winds that (blew,
Rais'd, without Seed, Flow'rs always ſweet and (new.

And then upon the Expiration of the Golden Age, he ſays,

Jupiter antiqui contraxit tempora Veris, &c.

When

When Jove *begun to reign, he chang'd the Year,*
And for one Spring four Seaſons made appear.

The Ancients ſuppos'd, that in the Reign of *Saturn*, who was an Antediluvian God, as I may ſo call him, Time flow'd with a more even Motion, and there was no Diverſity of Seaſons in the Year; but *Jupiter*, they ſay, firſt introduc'd that, when he came to manage Affairs. This is expreſt after their way, who ſeldom give any ſevere and Philoſophical Accounts of the Changes of Nature. And as they ſuppos'd this perpetual Spring in the Golden Age, ſo they did alſo in their particular *Elyſiums*; as I could ſhew largely from their Authors, if it would not multiply Citations too much. 'Tis true, their *Elyſiums* reſpected the new Heavens, and new Earth to come, rather than the paſt; but they are both fram'd upon the ſame Model, and have common Properties.

The Chriſtian Authors have no leſs celebrated the perpetual Spring and Serenity of the Heavens in *Paradiſe*; ſuch Expreſſions or Deſcriptions you will find in *Juſtin Martyr*, *S. Baſil*, *Damaſcen*, *Iſidore Hiſpalenſis*; *De Grat. prim. hom.* and others, inſomuch that *Bellarmine*, I remember, reflecting upon thoſe Characters of *Paradiſe*, which many of the Fathers have given in theſe Reſpects, ſaith, Such Things could not be, unleſs the Sun had then another Courſe from what he hath now; or which is more eaſy, the Earth another Situation.

ation. Which Conjecture will hereafter appear to have been well grounded. In the mean time, let us ſee the Chriſtian Poetry upon this Subject, as we have ſeen the *Roman* upon the other. *Alcimus Avitus* hath thus deſcrib'd *Paradiſe* in his Notes upon *Geneſis*:

Non hic alterni ſuccedit temporis unquam
Bruma, nec æſtivi redeunt poſt frigora Soles;
Hic Ver aſſiduum Cœli clementia ſervat.
Turbidus Auſter abeſt, ſemperque ſub aere ſudo
Nubila diffugiunt, jugi ceſſura ſereno.
Nec poſcit Natura loci, quos non habet, imbres,
Sed contenta ſuo dotantur germina rore.
Perpetuo viret omne ſolum, terræque benignæ
Blanda nitet facies: Stant ſemper collibus herbæ,
Arboribuſque comæ, &c.

No Change of Seaſons or Exceſs was there,
No Winter chill'd, nor Summer ſcorch'd the Air,
But, with a conſtant Spring, Nature was freſh (and fair.
Rough Winds or Rains that Region never knew,
Water'd with Rivers and the Morning Dew;
The Heav'ns ſtill clear, the Fields ſtill green and (gay,
No Clouds above, nor on the Earth decay;
Trees kept their Leaves and Verdure all the Year,
And Fruits were never out of Seaſon there.

And as the Chriſtian Authors, ſo likewiſe the *Jewiſh* have ſpoken of *Paradiſe* in the ſame manner; they tell us alſo that the Days there were always of the ſame Length throughout the whole Year; and that made 'em fancy *Paradiſe* to lie under the Æquinoctial; as we ſhall ſee in its due Place. 'Tis true, we do not find theſe things mention'd expreſly in the Sacred Writings, but the Effects that flow'd from 'em are recorded there, and we may reaſonably ſuppoſe Providence to have foreſeen, that when thoſe Effects came to be ſcan'd and narrowly lookt into, they would lead us to a Diſcovery of the Cauſes, and particularly of this great and general Cauſe, that *perpetual Æquinox* and Unity of Seaſons in the Year, till the Deluge. The Longævity of the Antediluvians cannot be explain'd upon any other Suppoſition, as we ſhall have Occaſion to ſhow hereafter; and that you know is recorded carefully in Scripture: As alſo that there was no *Rainbow* before the Flood; which goes upon the ſame Ground, that there was no Variety of Seaſons, nor any Rain: And this by many is thought to be underſtood by *Moſes*'s Words, *Gen.* 2. 5, 6. which he ſpeaks of the firſt and Paradiſiacal Earth. Laſtly, Seeing the Earth then brought forth the Principles of Life and all Living Creatures (Man excepted) according to *Moſes*, *Gen.* 1. 24. we muſt ſuppoſe that the State of the Heavens was ſuch as favour'd theſe Conceptions and Births, which could not poſſibly be brought to Perfection, as the Seaſons of the Year are at preſent. The firſt time that we have mention made in Scripture of Summer and Winter, and the Differences of Seaſons, is at the ending of the Deluge, *Gen.* 8. 22. *Hence forward all the Days* *of the Earth, Seed-time and Harveſt, Heat and Cold, Summer and Winter, Day and Night ſhall not ceaſe.* 'Tis true theſe Words are ſo lax, that they may be underſtood either of a new Courſe of Nature then inſtituted, or of an old one reſtor'd; but ſeeing it doth appear from other Arguments and Conſiderations, that there was at that time a new Courſe of Nature conſtituted, it is more reaſonable to interpret the Words in that Senſe; which, as it is agreeable to Truth, according to Reaſon and Antiquity; ſo it renders that Remark of *Moſes* of far greater Importance, if it be underſtood as an Indication of a new Order then ſettled in Nature, which ſhould continue henceforwards ſo long as the Earth endur'd. Nor do I at all wonder that ſuch things ſhould not be expreſly and poſitively declar'd in Scripture; for Natural Myſteries in the Holy Writings, as well as Prophetical, are many times, on ſet Purpoſe, incompleatly deliver'd, ſo as to awaken and excite our Thoughts rather than fully reſolve them: This being often more ſuitable to the Deſigns of Providence in the Government of the World. But thus much for this firſt common or general Character of the Golden Age, and of *Paradiſe*, a *perpetual Serenity and perpetual Æquinox.*

The ſecond Character is the Longævity of Men, and, as is probable, of all other Animals in Proportion. This, methinks, is as ſtrange and ſurprizing as the other; and I know no Difference betwixt the Antediluvian World and the preſent ſo apt to affect us, if we reflect upon it, as this wonderful Diſproportion in the Ages of Men; our Forefathers and their Poſterity: They liv'd ſeven, eight, nine hundred Years and upwards, and 'tis a wonder now if a Man live to one hundred. Our Oaks do not laſt ſo long as their Bodies did; Stone and Iron would ſcarce outwear them. And this Property of the firſt Ages, or their Inhabitants, how ſtrange ſoever, is well atteſted, and beyond all Exception, having the joint Conſent of Sacred and Profane Hiſtory. The Scripture ſets down the preciſe Age of a Series of Antediluvian Patriarchs, and by that meaſures the Time from the beginning of the World to the Deluge; ſo as all Sacred Chronology ſtands upon that bottom. Yet I know ſome have thought this ſo improbable and incongruous a thing, that to ſave the Credit of *Moſes* and the Sacred Hiſtory, they interpret theſe Years of *Lunar* Years or Months; and ſo the Ages of theſe Patriarchs are reduc'd to much what the ſame meaſure with the common Life of Man at this time. It may be obſerv'd in this, as in many other Inſtances, that for want of a Theory to make Things credible and intelligible, Men of Wit and Parts have often depreſt the Senſe of Scripture; and that not out of any ill Will to Scripture or Religion, but becauſe they could not otherwiſe, upon the Stock of their Notions, give themſelves a rational Account of Things recorded there. But I hope when we come to explain the Cauſes of this Longævity, we ſhall ſhew that it is altogether as ſtrange a Thing that Men ſhould have ſuch ſhort Lives as they have now, as that they had ſuch long Lives in the firſt Ages of the World. In the mean time, there are a great many collateral Reaſons to aſſure us that *Lunar* Years cannot be here underſtood by *Moſes*, for all Antiquity gives the ſame Account of thoſe firſt Ages of the World, and of the firſt Men, that they were extreamly long-liv'd. We meet with it generally in the Deſcription of the Golden Age; and not only ſo, but in their Topical *Paradiſes* alſo they always ſuppos'd a great Vivacity or Longævity in thoſe that enjoy'd them. And *Joſephus*, ſpeaking upon this Subject, *Book* 1. *Ch.* 4. *Jew. Ant.* ſaith, the Authors of all the Learned Nations, *Greeks* or *Barbarians*, bare Witneſs to *Moſes*'s Doctrine in this particular. And in the *Moſaical* Hiſtory it ſelf, there are ſeveral Circumſtances and Marks that diſcover plainly, that the Years of the Patriarchs cannot be underſtood of *Lunar* Years; as we ſhall have Occaſion to ſhow in another Place. We proceed in the mean time to the third and laſt Character, The extraordinary Fertility of the Soil, and the Production of Animals out of the new made Earth.

The firſt part of this Character is unqueſtionable; All Antiquity ſpeaks of the Plenty of the Golden Age, and of their *Paradiſes*, whether Chriſtian or Heathen. The Fruits of the Earth at firſt were ſpontaneous, and the Ground, without being torn and tormented, ſatisfied the Wants or Deſires of Man. When Nature was freſh and full, all things flow'd from her more eaſily and more pure, like the firſt running of the Grape, or the Honey-comb; but now ſhe muſt be preſt and ſqueez'd, and her Productions taſte more of the Earth and of Bitterneſs. The ancient Poets have often pleas'd themſelves in making Deſcriptions of this happy State, and in admiring the Riches and Liberality of Nature at that time; but we need not tranſcribe their Poetry here, ſeeing this Point is not, I think, conteſted by any. The ſecond Part of this Character, concerning the ſpontaneous Origin of Living Creatures out of that firſt Earth, is not ſo unqueſtionable; and as to Man, *Moſes* plainly implies that there was a particular Action or Miniſtery of Providence in the Formation of his Body; but as to other Animals, he ſeems to ſuppoſe that the Earth brought them forth as it did Herbs and Plants. (*Gen.* 1. 24. compar'd with the 11th Verſe.) And the Truth is, there is no ſuch great Difference betwixt Vegetable and Animal Eggs, or betwixt the Seeds out of which Plants riſe, and the Eggs out of which all Animals riſe, but that we may conceive, the one as well as the other, in the firſt Earth; And as ſome Warmth and Influence from the Sun is requir'd for the Vegetation of Seeds, ſo that Influence or Impregnation, which is neceſſary to make Animal Eggs fruitful, was imputed by the Ancients to the *Æther*, or to an active and pure Element which had the ſame Effect upon our great Mother the Earth, as the Irradiation of the Male hath upon the Females Eggs.

Tum Pater Omnipotens fœcundis imbribus Æther
Conjugis in gremium lætæ deſcendit.

In fruitful Show'rs of Æther Jove *did glide*
Into the Boſom of his joyful Bride.

'Tis true, this Opinion of the ſpontaneous Origin of Animals in the firſt Earth hath lain under ſome *Odium*, becauſe it was commonly reckon'd to be *Epicurus*'s Opinion peculiarly; and he extended it not only to all brute Creatures, but to Mankind alſo, whom he ſuppos'd to grow out of the Earth in great numbers, in ſeveral Parts and Countries, like other Animals; which is a Notion contrary to the Sacred Writings; for they declare, that all Mankind, though diffus'd now through the ſeveral Parts and Regions of the Earth, roſe at firſt from one Head or ſingle Man or Woman; which is a Concluſion of great Importance, and that could not, I think, by the Light of Nature, have ever been diſcover'd. And this makes the *Epicurian* Opinion the more improbable, for why ſhould two riſe only, if they ſprung from the Earth? or how could they riſe in their full Growth and Perfection, as *Adam* and *Eve* did? But as for the Opinion of Animals riſing out of the Earth at firſt, that was not at all peculiar to *Epicurus*; The *Stoicks* were of the ſame Mind, and the *Pythagoreans*, and the *Ægyptians*, and, I think, all that ſuppos'd the Earth to riſe from a Chaos. Neither do I know any harm in that Opinion, if duly limited and ſtated; for what Inconvenience is it, or what Diminution of Providence, that there ſhould be the Principles of Life, as well as the Principles of Vegetation, in the new Earth? And unleſs you ſuppoſe all the firſt Animals, as well as the firſt Man, to have been made at one ſtroke, in their full Growth and Perfection, which we have neither Reaſon nor Authority ſufficient to believe; if they were made young, little and weak, as they come now into the World, there ſeems to be no way for their Production more proper, and decorous, than that they ſhould ſpring from their great Mother the Earth. Laſtly, conſidering the innumerable little Creatures that are upon the Earth, Inſects and creeping things; and that theſe were not created out of nothing, but form'd out of the Ground: I think that an Office moſt proper for Nature, that can ſet ſo many Hands to work at once; and that hath Hands fit for all thoſe little Operations or Manufactures, how ſmall ſoever, that would leſs become the Dignity of Superiour Agents.

Thus much for the Preliminaries, or three general Characters of *Paradiſe*, which were common to it with the reſt of the Primæval Earth; and were the chief Ingredients of the Golden Age, ſo much celebrated by the Ancients. I know there were ſeveral other Differences betwixt that Earth and this; but theſe are the Original; and ſuch as are not neceſſary to be premis'd for the general Explication of *Paradiſe*, we reſerve for another Place. We may in the mean time obſerve, how prepoſterouſly they go to work, that ſet themſelves immediately to find out ſome pleaſant Place of the Earth to fix *Paradiſe* in, before they have conſider'd, or laid any Grounds, to explain the general Conditions of it, whereſoever it was. Theſe muſt be firſt known and determin'd, and we muſt take our Aim and Directions from theſe, how to proceed further in our Enquiries after it; otherwiſe we ſail without a Compaſs, or ſeek a Port and know not which way it lies. And as we ſhould think him a very unskilful Pilot that ſought a Place in the new World, or *America*, that really was in the old; ſo they commit no leſs an Error, that ſeek *Paradiſe* in the preſent Earth, as now conſtituted, which could only belong to the former, and to the State of the firſt World: As will appear more plainly in the following Chapter.

CHAP. II.

The great Change of the World ſince the Flood from what it was in the firſt Ages. The Earth under its preſent Form could not be Paradiſiacal, *nor any Part of it.*

THE *Scheme of this World paſſeth away*, ſaith an Holy Author: The Mode and Form, both of the Natural and Civil World changeth continually more or leſs, but moſt remarkably at certain Periods, when all Nature puts on another Face; as it will do at the Conflagration, and hath done already from the time of the Deluge. We may imagine how different a Proſpect the firſt World would make from what we ſee now in the preſent State of Things, if we conſider only thoſe Generals by which we have deſcrib'd it in the foregoing Chapter, and what their Influence would be upon Mankind and the reſt of Nature. For every new State of Nature doth introduce a new Civil Order, and a new Face and Oeconomy of Humane Affairs: And I am apt to think that ſome two Planets, that are under the ſame State or Period, do not ſo much differ from one another, as the ſame Planet doth from it ſelf in different Periods of its Duration. We do not ſeem to inhabit the ſame World that our firſt Fore-fathers did, nor ſcarce to be the ſame Race of Men. Our Life now is ſo ſhort and vain, as if we came into the World only to ſee it and leave it; by that time we begin to underſtand our ſelves a little, and to know where we are, and how to act our part; we muſt leave the Stage, and give Place to others as meer Novices as we were our ſelves at our firſt Entrance. And this ſhort Life is employ'd, in a great meaſure, to preſerve our ſelves from Neceſſity, or Diſeaſes, or Injuries of the Air, or other Inconveniencies; to make one Man eaſy, ten muſt work and do drudgery; The Body takes up ſo much time, we have little Leiſure for Contemplation, or to cultivate the Mind. The Earth doth not yield us Food, but with much Labour and Induſtry; and what was her free-will Offering before, or an eaſy Liberality, can ſcarce now be extorted from her. Neither are the Heavens more favourable, ſometimes in one Extream, ſometimes in another; The Air often impure or infectious, and, for a great part of the Year, Nature her ſelf ſeems to be ſick or dead. To this Vanity the external Creation is made ſubject as well as Mankind, and ſo muſt continue till the Reſtitution of all Things.

Can we imagine, in thoſe happy Times and Places we are treating of, that things ſtood in this ſame Poſture? are theſe the Fruits of the Golden Age and of *Paradiſe*, or conſiſtent with their Happineſs? And the Remedies of theſe Evils muſt be ſo univerſal, you cannot give them to one Place or Region of the Earth, but all muſt participate: For theſe are things that flow from the Courſe of the Heavens, or ſuch general Cauſes as extend at once to all Nature. If there was a perpetual Spring and perpetual Æquinox in *Paradiſe*, there was at the ſame time a perpetual Æquinox all the Earth over; unleſs you place *Paradiſe* in the middle of the Torrid Zone. So alſo the long Lives of the Antediluvians was an univerſal Effect, and muſt have had an univerſal Cauſe. 'Tis true, in ſome ſingle Parts or Regions of the preſent Earth, the Inhabitants live generally longer than in others, but do not approach in any meaſure the Age of their Antediluvian Fore-fathers; and that degree of Longævity which they have above the reſt, they owe to the Calmneſs and Tranquility of their Heavens and Air; which is but an imperfect Participation of that Cauſe which was once univerſal; and had its Effect throughout the whole Earth. And as to the Fertility of this Earth, though in ſome Spots it be eminently more fruitful than in others, and more delicious; yet that of the firſt Earth was a Fertility of another kind, being ſpontaneous, and extending to the Production of Animals, which cannot be without a favourable Concourſe from the Heavens alſo.

Thus much in general; we will now go over thoſe three forementioned Characters more diſtinctly, to ſhow, by their Unſuitableneſs to the preſent State of Nature, that neither the whole Earth, as it is now, nor any Part of it, could be *Paradiſiacal.* The perpetual Spring, which belong'd to the Golden Age, and to *Paradiſe*, is an Happineſs this preſent Earth cannot pretend to, nor is capable of, unleſs we could transfer the Sun from the Ecliptick to the Æquator, or, which is as eaſy, perſuade the Earth to change its Poſture to the Sun. If *Archimedes* had found a Place to plant his Machines in for removing of the Earth, all that I ſhould have deſir'd of him, would have been only to have given it an heave at one End, and ſet it a little to rights again with the Sun, that we might have enjoy'd the Comfort of a perpetual Spring, which we have loſt by its Diſlocation ever ſince the Deluge. And there being nothing more indiſpenſably neceſſary to a *Paradiſiacal* State than this Unity and Equality of Seaſons, where that cannot be, 'tis in vain to ſeek for the reſt of *Paradiſe.*

The ſpontaneous Fruitfulneſs of the Ground was a thing peculiar to the primigenial Soil, which was ſo temper'd, as made it more luxuriant at that time than it could ever be afterwards; and as that rich Temperament was ſpent, ſo by degrees it grew leſs fertile. The Origin or Production of Animals out of the Earth depended not only upon this vital Conſtitution of the Soil at firſt, but alſo upon ſuch a Poſture and Aſpect of the Heavens, as favour'd, or at leaſt permitted Nature, to make her beſt Works out of this prepar'd Matter, and better than could be made in that manner, after the Flood. *Noah*, we ſee, had Orders given him to preſerve the Races of living Creatures in his Ark, when the old World was deſtroy'd; which is an Argument to me, that Providence foreſaw that the Earth would not be capable to produce them under its new Form; and that, not only for want of Fitneſs in the Soil, but becauſe of the Diverſity of Seaſons which were then to take Place, whereby Nature would be diſturb'd in her Work, and the Subject to be wrought upon would not continue long enough in the ſame due Temper. But this part of the ſecond Character, concerning the Original of Animals, deſerves to be further examin'd and explain'd.

The firſt Principles of Life muſt be tender and ductile, that they may yield to all the Motions and gentle Touches of Nature; otherwiſe it is not poſſible that they ſhould be wrought with that Curioſity, and drawn into all thoſe little fine Threads and Textures, that we ſee and admire in ſome parts of the Bodies of Animals. And as the Matter muſt be ſo conſtituted at firſt, ſo it muſt be kept in a due Temper till the Work be finiſht, without any Exceſs of Heat or Cold; and accordingly we ſee that Nature hath made Proviſion in all ſorts of Creatures, whether Oviparous or Viviparous, that the firſt Rudiments of Life ſhould be preſerv'd from all Injuries of the Air, and kept in a moderate Warmth. Eggs are enclos'd in a Shell, or Film, and muſt be cheriſh'd with an equal gentle Heat, to begin Formation and continue it, otherwiſe the Work miſcarries: And in Viviparous Creatures, the Materials of Life are ſafely lodg'd in the Female's Womb, and conſerv'd in a fit Temperature 'twixt Heat and Cold, while the Cauſes that Providence hath employ'd are buſy at work, faſhioning and placing and joining the Parts in that due Order which ſo wonderful a Fabrick requires.

Let us now compare theſe things with the Birth of Animals in the new-made World, when they firſt roſe out of the Earth, to ſee what Proviſion could be made there for their Safety and Nouriſhment, while they were a making, and when newly made; and though we take all Advantages we can, and ſuppoſe both the Heavens and the Earth favourable, a fit Soil and a warm and conſtant Temper of the Air, all will be little enough to make this way of Production feaſible or probable. But if we ſuppoſe there was then the ſame Inconſtancy of the Heavens that is now, the ſame Viciſſitude of Seaſons, and the ſame Inequality of

Heat and Cold, I do not think it at all poſſible that they could be ſo form'd, or, being new-form'd, preſerv'd and nouriſh'd. 'Tis true, ſome little Creatures, that are of ſhort Diſpatch in their Formation, and find Nouriſhment enough whereſoever they are bred, might be produc'd and brought to Perfection in this way, notwithſtanding any Inequality of Seaſons; becauſe they are made all at a Heat, as I may ſo ſay, begun and ended within the compaſs of one Seaſon. But the great Queſtion is concerning the more perfect kinds of Animals, that require a long ſtay in the Womb, to make them capable to ſuſtain and nouriſh themſelves when they firſt come into the World. Such Animals, being big and ſtrong, muſt have a pretty Hardneſs in their Bones, and Force and Firmneſs in their Muſcles and Joints, before they can bare their own weight, and exerciſe the common Motions of their Body: And accordingly we ſee Nature hath ordain'd for theſe a longer time of Geſtation, that their Limbs and Members might have time to acquire Strength and Solidity. Beſides, the young ones of theſe Animals have commonly the Milk of the Dam to nouriſh them after they are brought forth, which is a very proper Nouriſhment, and like to that which they had before in the Womb; and by this means their Stomachs are prepar'd by degrees for coarſer Food; Whereas our Terrigenous Animals muſt have been wean'd as ſoon as they were born, or as ſoon as they were ſeparated from their Mother the Earth, and therefore muſt be allow'd a longer time of continuing there.

Theſe Things being conſider'd, we cannot in reaſon but ſuppoſe, that theſe Terrigenous Animals were as long, or longer, a perfecting, than our Viviparous, and were not ſeparated from the Body of the Earth for ten, twelve, eighteen or more Months, according as their Nature was; and ſeeing in this ſpace of time they muſt have ſuffer'd, upon the common *Hypotheſis*, all Viciſſitudes and Variety of Seaſons, and great Exceſſes of Heat and Cold, which are things incompatible with the tender Principles of Life and the Formation of living Creatures, as we have ſhown before; we may reaſonably and ſafely conclude, that Nature had not, when the World began, the ſame Courſe ſhe hath now, or that the Earth was not then in its preſent Poſture and Conſtitution: Seeing, I ſay, theſe firſt ſpontaneous Births, which both the Holy Writ, Reaſon and Antiquity ſeem to allow, could not be finiſh'd and brought to Maturity, nor afterwards preſerv'd and nouriſh'd, upon any other Suppoſition.

Longævity is the laſt Character to be conſider'd, and as inconſiſtent with the preſent State of the Earth as any other. There are many Things in the Story of the firſt Ages that ſeem ſtrange, but nothing ſo prodigy-like as the long Lives of thoſe Men; that their Houſes of Clay ſhould ſtand eight or nine hundred Years and upwards, and thoſe we build of the hardeſt Stone or Marble will not now laſt ſo long. This hath excited the Curioſity of Ingenious and Learned Men in all Ages to enquire after the poſſible Cauſes of that Longævity; and if it had been always in Conjunction with Innocency of Life and Manners, and expir'd when that expir'd, we might have thought it ſome peculiar Bleſſing or Reward attending that; but 'twas common to good and bad, and laſted till the Deluge, whereas Mankind was degenerate long before. Amongſt Natural Cauſes, ſome have imputed it to the Sobriety and Simplicity of their Diet and manner of living in thoſe Days, that they eat no Fleſh, and had not all thoſe Provocations to Gluttony which Wit and Vice have ſince invented. This might have ſome Effect, but not poſſibly to that degree and meaſure that we ſpeak of. There are many Monaſtical Perſons now that live Abſtemiouſly all their Lives, and yet they think an hundred Years a very great Age amongſt them. Others have imputed it to the Excellency of their Fruits, and ſome unknown Virtue in their Herbs and Plants in thoſe Days; but they may as well ſay nothing, as ſay that which can neither be prov'd nor underſtood. It could not be either the Quantity or Quality of their Food that was the Cauſe of their long Lives, for the Earth was ſaid to be curſt long before the Deluge, and probably by that time was more barren and juiceleſs (for the generality) than ours is now; yet we do not ſee that their Longævity decreas'd at all, from the beginning of the World to the Flood. *Methuſalah* was *Noah*'s Grand-father, but one intire Remove from the Deluge, and he liv'd longer than any of his Fore-fathers. That Food that will nouriſh the Parts, and keep us in Health, is alſo capable to keep us in long Life, if there be no Impediments otherwiſe; for to continue Health is to continue Life; as that Fewel that is fit to raiſe and nouriſh a Flame, will preſerve it as long as you pleaſe, if you add freſh Fewel, and no external Cauſes hinder: Neither do we obſerve that in thoſe Parts of the preſent Earth, where People live longer than in others, that there is any thing extraordinary in their Food; but that the Difference is chiefly from the Air and the Temperateneſs of the Heavens; And if the Antediluvians had not enjoy'd that Advantage in a peculiar manner, and differently from what any Parts of the Earth do now, they would never have ſeen ſeven, eight, or nine hundred Years go over their Heads, though they had been nouriſh'd with *Nectar* and *Ambroſia*.

Others have thought that the long Lives of thoſe Men of the old World proceeded from the Strength of their *Stamina*, or firſt Principles of their Bodies; which if they were now as ſtrong in us, they think we ſhould ſtill live as long as they did. This could not be the ſole and adæquate Cauſe of their Longævity, as will appear both from Hiſtory and Reaſon. *Shem*, who was born before the Flood, and had in his Body all the Virtue of the Antediluvian *Stamina* and Conſtitution, fell three hundred Years ſhort of the Age of his Fore-fathers, becauſe the greateſt part of his Life was paſt after the Flood. That their *Stamina* were ſtronger than ours are, I am very ready to believe, and that their Bodies were greater; and any Race of ſtrong Men, living long in Health, would have Children of a proportionable ſtrong Conſtitution with themſelves; but then the Queſtion is, how was this interrupted? We that are their Poſterity, why do not we inherit their long Lives? How was this Conſtitution broken at the Deluge, and how did the *Stamina* fail ſo faſt when that came? Why was there ſo great a *Criſis* then and Turn of Life, or why was that the Period of their Strength?

We ſee this Longævity ſunk half in half immediately after the Flood, and after that it ſunk by gentler degrees, but was ſtill in Motion and Declenſion till it was fixt at length, before *David*'s time, *Pſ.* 90. 10. (*call'd a Pſalm of* Moſes,) in that which hath been the common Standard of Man's Age ever ſince: As when ſome excellent Fruit is tranſplanted into a worſe Climate and Soil, it degenerates continually till it comes to ſuch a degree of Meanneſs as ſuits that Air and Soil, and then it ſtands. That the Age of Man did not fall all on a ſudden from the Antediluvian Meaſure to the preſent, I impute it to the remaining *Stamina* of thoſe firſt Ages, and the Strength of that priſtine Conſtitution which could not wear off but by degrees. We ſee the *Blacks* do not quit their Complexion immediately by removing into another Climate, but their Poſterity changeth by little and little, and after ſome Generations they become altogether like the

People of the Country where they are. Thus by the Change of Nature that happen'd at the Flood, the unhappy Influence of the Air and unequal Seaſons weaken'd by degrees the innate Strength of their Bodies and the Vigour of their Parts, which would have been capable to have laſted ſeveral more hundreds of Years, if the Heavens had continued their Courſe as formerly, or the Earth its Poſition. To conclude this particular, if any think that the Antediluvian Longævity proceeded only from the *Stamina*, or the meer Strength of their Bodies, and would have been ſo under any Conſtitution of the Heavens, let 'em reſolve themſelves theſe Queſtions: Firſt, Why theſe *Stamina*, or this Strength of Conſtitution fail'd? Secondly, Why did it fail ſo much and ſo remarkably at the Deluge? Thirdly, Why in ſuch Proportions as it hath done ſince the Deluge? And laſtly, Why it hath ſtood ſo long immovable, and without any further Diminution? Within the compaſs of five hundred Years they ſunk from nine hundred to ninety; and in the compaſs of more than three thouſand Years ſince they have not ſunk ten Years, or ſcarce any thing at all. Who conſiders the Reaſons of theſe Things, and the true Reſolution of theſe Queſtions, will be ſatisfied, that to underſtand the Cauſes of that Longævity, ſomething more muſt be conſider'd than the Make and Strength of their Bodies; which, though they had been made as ſtrong as the *Behemoth* or *Leviathan*, could not have laſted ſo many Ages, if there had not been a particular

cular Concurrence of external Cauſes, ſuch as the preſent State of Nature doth not admit of.

By this ſhort Review of the three general Characters of *Paradiſe* and the Golden Age, we may conclude how little conſiſtent they are with the preſent Form and Order of the Earth. Who can pretend to aſſign any Place or Region in this terraqueous Globe, Iſland or Continent, that is capable of theſe Conditions, or that agrees either with the Deſcriptions given by the Ancient Heathens of their *Paradiſes*, or by the Chriſtian Fathers of Scripture *Paradiſe*? But where then, will you ſay, muſt we look for it, if not upon this Earth? This puts us more into Deſpair of finding it than ever; 'tis not above nor below, in the Air or in the ſubterraneous Regions: No, doubtleſs 'twas upon the Surface of the Earth, but of the Primitive Earth, whoſe Form and Properties, as they were different from this, ſo they were ſuch as made it capable of being truly *Paradiſiacal*, both according to the forementioned Characters, and all other Qualities, and Privileges reaſonably aſcrib'd to *Paradiſe*.

CHAP. III.

The Original Differences of the Primitive Earth from the preſent or poſt-diluvian. The three Characters of Paradiſe *and the Golden Age found in the Primitive Earth. A particular Explication of each Character.*

WE have hitherto only perplext the Argument and our ſelves, by ſhowing how inexplicable the State of *Paradiſe* is according to the preſent Order of Things, and the preſent Condition of the Earth. We muſt now therefore bring into view that Original and Antediluvian Earth where we pretend its Seat was, and ſhow it capable of all thoſe Privileges which we have deny'd to the preſent; in virtue of which Privileges, and of the Order of Nature eſtabliſht there, that primitive Earth might be truly *Paradiſiacal*, as in the Golden Age; and ſome Region of it might be peculiarly ſo, according to the receiv'd *Idea* of *Paradiſe.* And this, I think, is all the Knowledge and Satisfaction that we can expect, or that Providence hath allow'd us in this Argument.

The Primigenial Earth, which in the firſt Book (*Chap.* 5.) we rais'd from a Chaos, and ſet up in an habitable Form, we muſt now ſurvey again with more Care, to obſerve its principal Differences from the preſent Earth, and what Influence they will have upon the Queſtion in hand. Theſe Differences, as we have ſaid before, were chiefly three; The Form of it, which was ſmooth, even and regular. The Poſture and Situation of it to the Sun, which was direct, and not, as it is at preſent, inclin'd and oblique; and the Figure of it, which was more apparently and regularly oval than it is now. From theſe three Differences flow'd a great many more, inferiour and ſubordinate; and which had a conſiderable Influence upon the moral World at that time, as well as the natural. But we will only obſerve here their more immediate Effects, and that in reference to thoſe general Characters or Properties of the Golden Age and of *Paradiſe*, which we have inſtanc'd in, and whereof we are bound to give an Account by our *Hypotheſis*.

And in this reſpect the moſt fundamental of thoſe three Differences we mention'd, was that of the right Poſture and Situation of the Earth to the Sun; for from this immediately follow'd a perpetual Æquinox all the Earth over, or, if you will, a perpetual Spring: And that was the great thing we found wanting in the preſent Earth to make it *Paradiſiacal*, or capable of being ſo. Wherefore this being now found and eſtabliſht in the Primitive Earth, the other two Properties, of Longævity and of Spontaneous and Vital Fertility, will be of more eaſy Explication. In the mean time let us view a little the Reaſons and Cauſes of that regular Situation in the firſt Earth.

The Truth is, one cannot ſo well require a Reaſon of the regular Situation the Earth had then, for that was moſt ſimple and natural; as of the irregular Situation it hath now, ſtanding oblique and inclin'd to the Sun or the Ecliptick: Whereby the Courſe of the Year is become unequal, and we are caſt into a great Diverſity of Seaſons. But however, ſtating the firſt aright with its Circumſtances, we ſhall have a better Proſpect upon the ſecond, and ſee from what Cauſes, and in what manner, it came to paſs. Let us therefore ſuppoſe the Earth, with the reſt of its fellow Planets, to be carried about the Sun in the Ecliptick by the Motion of the liquid Heavens; and being at that time perfectly uniform and regular, having the ſame Center of its Magnitude and Gravity, it would by the Equality of its Libration neceſſarily have its Axis parallel to the Axis of the ſame Ecliptick, both its Poles being equally inclin'd to the Sun. And this Poſture I call a *right Situation*, as oppos'd to oblique or inclin'd: or a *parallel* Situation, if you pleaſe. Now this is a thing that needs no Proof beſides its own Evidence; for 'tis the immediate Reſult and common Effect of Gravity or Libration, that a Body, freely left to itſelf in a fluid *Medium*, ſhould ſettle in ſuch a Poſture as beſt anſwers to its Gravitation; and this firſt Earth whereof we ſpeak, being uniform and every way equally ballanc'd, there was no Reaſon why it ſhould incline at one End, more than at the other, towards the Sun. As if you ſhould ſuppoſe a Ship to ſtand North and South under the Æquator, if it was equally built and equally ballaſted, it would not incline to one Pole or other, but keep its Axis parallel to the Axis of the Earth; but if the Ballaſt lay more at one End, it would dip towards that Pole, and riſe proportionably higher towards the other. So thoſe great Ships that ſail about the Sun once a Year, or once in ſo many Years, whilſt they are uniformly built and equally pois'd, they keep ſteady and even with the Axis of their Orbit; but if they loſe that Equality, and the Center of their Gravity change, the heavier End will incline more towards the common Center of their Motion, and the other End will recede from it. So particularly the Earth, which makes one in that Aëry Fleet, when it 'ſcap'd ſo narrowly from being ſhipwrackt in the great Deluge, was however ſo broken and diſorder'd, that it loſt its equal Poiſe, and thereupon the Center of its Gravity changing, one Pole became more inclin'd towards the Sun, and the other more remov'd from it, and ſo its right and parallel Situation which it had before to the Axis of the Ecliptick, was chang'd into an oblique; in which skew Poſture it hath ſtood ever ſince, and is likely ſo to do for ſome Ages to come. I inſtance in this, as the moſt obvious Cauſe of the Change of the Situation of the Earth, though it may be, upon this followed a Change in its Magnetiſm, and that might alſo contribute to the ſame Effect.

However, this Change and Obliquity of the Earth's Poſture had a long train of Conſequences depending upon it; whereof that was the moſt immediate, that it alter'd the Form of the Year, and brought in that Inequality of Seaſons which hath ſince obtain'd: As, on the contrary, while the Earth was in its firſt and natural Poſture, in a more eaſy and regular Diſpoſition to the Sun, that had alſo another reſpective train of Conſequences, whereof one of the firſt, and that which we are moſt concern'd in at preſent, was, that it made a perpetual Æquinox or Spring to all the World, all the Parts of the Year had one and the ſame Tenor, Face and Temper; there was no Winter or Summer, Seed-time or Harveſt, but a continual Temperature of the Air and Verdure of the Earth. And this fully anſwers the firſt and fundamental Character of the Golden Age and of *Paradiſe*; and what Antiquity, whether Heathen or Chriſtian, hath ſpoken concerning that perpetual Serenity and conſtant Spring that reign'd there, which in the one was accounted Fabulous, and in the other Hyperbolical, we ſee to have been really and Philoſophically true. Nor is there any Wonder in the thing, the Wonder is rather on our ſide, that the Earth ſhould ſtand and continue in that forc'd Poſture wherein it is now, ſpinning Yearly about an Axis, I mean that of the Æquator, that doth not belong to the Orbit of its Motion; This, I ſay, is more ſtrange than that it once ſtood in a Poſture that was ſtreight and regular; As we more juſtly admire the Tower at *Piſa*, that ſtands crook'd, than twenty other ſtreight Towers that are much higher.

Having got this Foundation to ſtand upon, the reſt of our Work will go on more eaſily; and the two other Characters which we mention'd, will not be of very difficult Explication. The ſpontaneous Fertility of the Earth, and its Production of Animals at that time, we have in ſome meaſure explain'd before, ſuppoſing it to proceed partly from the Richneſs of the primigenial Soil, and partly from this conſtant Spring and Benignity of the Heavens, which we have now eſtabliſh'd: Theſe were always ready to excite Nature, and put her upon Action, and never to interrupt her in any of her Motions or Attempts. We have ſhow'd in the fifth Chapter of the firſt Book, how this primigenial Soil was made, and of what Ingredients; which were ſuch as compoſe the richeſt and fatteſt Soil, being a light Earth mixt with unctuous Juices, and then afterwards refreſh'd and diluted with the Dews of Heaven all the Year long, and cheriſht with a continual Warmth from the Sun. What more hopeful Beginning of a World than this? You will grant, I believe, that whatſoever degree, or whatſoever kind of Fruitfulneſs could be expected from a Soil and a Sun, might be reaſonably expected there. We ſee great Woods and Foreſts of Trees riſe ſpontaneouſly, and that ſince the Flood (for who can imagine that the ancient Foreſts, whereof ſome were ſo vaſtly great, were planted by the Hand of Man?) why ſhould we not then believe that Fruit-trees and Corn roſe as ſpontaneouſly in that firſt Earth? That which makes Husbandry

dry and humane Arts ſo neceſſary now for the Fruits and Productions of the Earth, is partly indeed the Decay of the Soil, but chiefly the Diverſity of Seaſons, whereby they periſh, if care be not taken of them; but when there was neither Heat nor Cold, Winter nor Summer, every Seaſon was a Seed-time to Nature, and every Seaſon an Harveſt.

This, it may be, you will allow as to the Fruits of the Earth, but that the ſame Earth ſhould produce Animals alſo will not be thought ſo intelligible. Since it hath been diſcover'd, that the firſt Materials of all Animals are Eggs, as Seeds are of Plants, it doth not ſeem ſo hard to conceive that theſe Eggs might be in the firſt Earth, as well as thoſe Seeds; for there is a great Analogy and Similitude betwixt them; eſpecially if you compare theſe Seeds firſt with the Eggs of Inſects or Fiſhes, and then with the Eggs of viviparous Animals. And as for thoſe Juices which the Eggs of viviparous Animals imbibe thorough their Coats from the Womb, they might as well imbibe them, or ſomething analogous to them, from a conveniently temper'd Earth, as Plant-Eggs do; and theſe Things being admitted, the Progreſs is much-what the ſame in Seeds as Eggs, and in one ſort of Eggs as in another.

'Tis true, Animal-Eggs do not ſeem to be fruitful of themſelves, without the Influence of the Male; and this is not neceſſary in Plant-Eggs or vegetable Seeds. But neither doth it ſeem neceſſary in all Animal Eggs, if there be any Animals *ſponte orta*, as they call them, or bred without Copulation. And, as we obſerv'd before, according to the beſt Knowledge that we have of this Male-influence, it is reaſonable to believe, that it may be ſupplied by the Heavens or *Æther*. The Ancients, both the *Stoicks* and *Ariſtotle*, have ſuppos'd that there was ſomething of an æthereal Element in the Malegeniture, from whence the Virtue of it chiefly proceeded; and if ſo, why may we not ſuppoſe, at that time, ſome general Impreſſion or Irradiation of that purer Element to fructify the new made Earth? *Moſes* ſaith there was an Incubation of the Spirit of God upon the Maſs, and without all doubt that was either to form, or fructify it, and by the Mediation of this active Principle; but the Ancients ſpeak more plainly with expreſs mention of this *Æther*, and of the Impregnation of the Earth by it, as betwixt Male and Female. As in the Place before cited;

Tum Pater omnipotens fœcundis imbribus Æther
Conjugis in gremium lætæ deſcendit; & omnes
Magnus alit magno commixtus corpore fœtus.

Which Notion, I remember, St. *Auſtin* ſaith, *De Civ. D. lib.* 4. *c.* 10 *Virgil* did not take from the Fictions of the Poets, but out of the Books of the Philoſophers. Some of the graveſt Authors amongſt the *Romans* have reported that this Virtue hath been convey'd into the Wombs of ſome Animals by the Winds or the *Zephyri*; and as I eaſily believe that the firſt freſh Air was more impregnated with this Æthereal Principle than ours is, ſo I ſee no reaſon but thoſe balmy Dews, that fell every Night in the Primitive Earth, might be the Vehicle of it as well as the Malegeniture is now; and from them the teeming Earth, and thoſe vital Seeds which it contain'd, were actuated, and receiv'd their firſt Fruitfulneſs.

Now this Principle, howſoever convey'd to thoſe Rudiments of Life which we call Eggs, is that which gives the firſt ſtroke towards Animation; and this ſeems to be by exciting a Ferment in thoſe little Maſſes, whereby the Parts are looſen'd, and diſpos'd for that Formation which is to follow afterwards. And I ſee nothing that hinders but that we may reaſonably ſuppoſe that theſe Animal Productions might proceed thus far in the Primigenial Earth: And as to their Progreſs and the Formation of the Body, by what Agents or Principles ſoever that great Work is carried on in the Womb of the Female, it might by the ſame be carried on there. Neither would there be any Danger of miſcarrying by Exceſs of Heat or Cold, for the Air was always of an equal Temper and moderate Warmth; And all other Impediments were remov'd, and all Principles ready, whether active or paſſive; ſo as we may juſtly conclude, that as *Eve* was the Mother of all living as to Mankind, ſo was the Earth the Great Mother of all living Creatures beſides.

The third Character to be explain'd, and the moſt extraordinary in Appearance, is that of LONGÆVITY. This ſprung from the ſame Root, in my Opinion, with the other; though the Connexion, it may be, is not ſo viſible. We ſhow'd in the foregoing Chapter, that no Advantage of Diet, or of ſtrong Conſtitutions, could have carried their Lives, before the Flood, to that wonderful Length, if they had been expos'd to the ſame Changes of Air and of Seaſons that our Bodies are: But taking a perpetual Æquinox, and fixing the Heavens, you fix the Life of Man too; which was not then in ſuch a rapid Flux as it is now, but ſeem'd to ſtand ſtill, as the Sun did once without Declenſion. There is no Queſtion but every thing upon Earth, and eſpecially the Animate World, would be much more permanent, if the general Courſe of Nature was more ſteady and uniform; a Stability in the Heavens makes a Stability in all things below; and that Change and Contrariety of Qualities that we have in theſe Regions, is the Fountain of Corruption, and ſuffers nothing to be long in quiet: Either by inteſtine Motions and Fermentations excited within, or by outward Impreſſions, Bodies are no ſooner well conſtituted, but they are tending again to Diſſolution. The *Æther* in their little Pores and Chinks is unequally agitated, and differently mov'd at different times, and ſo is the Air in their greater, and the Vapours and Atmoſphere round about them: All theſe ſhake and unſettle both the Texture and Continuity of Bodies. Whereas in a fixt State of Nature, where theſe Principles have always the ſame conſtant and uniform Motion, when they are once ſuited to the Forms and Compoſitions of Bodies, they give them no further Diſturbance; they enjoy a long and laſting Peace, without any Commotions or Violence within or without.

We find our ſelves ſenſible Changes in our Bodies upon the Turn of the Year, and the Change of Seaſons; new Fermentations in the Blood and Reſolutions of the Humours; which if they do not amount to Diſeaſes, at leaſt they diſturb Nature, and have a bad Effect not only upon the fluid Parts, but alſo upon the more ſolid, upon the Springs and Fibres in the Organs of the Body, to weaken them and unfit them by degrees for their reſpective Functions. For though the Change is not ſenſible immediately in theſe Parts, yet after many repeated Impreſſions every Year, by unequal Heat and Cold, Drineſs and Moiſture, contracting and relaxing the Fibres, their Tone at length is in a great meaſure deſtroy'd, and brought to a manifeſt Debility; and the great Springs falling, the leſſer, that depend upon them, fall in Proportion, and all the Symptoms of Decay and old Age follow. We ſee by daily Experience, that Bodies are kept better in the ſame *Medium*, as we call it, than if they often change their *Medium*, as ſometimes in Air, ſometimes in Water, moiſten'd and dry'd, heated and cool'd; theſe different States weaken the Contexture of the Parts: But our Bodies, in the preſent State of Nature, are put into an hundred different *Mediums* in the courſe of a Year; ſometimes we are ſteept in Water, or in a miſty foggy Air for ſeveral Days together, ſometimes we are almoſt frozen with Cold, then fainting with Heat at another time of the Year; and the Winds are of a different Nature, and the Air of a different Weight and Preſſure, according to the Weather and the Seaſons: Theſe things would wear our Bodies, tho' they were built of Oak, and that in a very ſhort time in Compariſon of what they would laſt, if they were always incompaſt with one and the ſame *Medium*, under one and the ſame Temper, as it was in the Primitive Earth.

The Ancients ſeem to have been ſenſible of this, and of the true Cauſes of thoſe long Periods of Life; for whereſoever they aſſign'd a great Longævity, as they did not only to their Golden Age, but alſo to their particular and topical *Paradiſes*, they alſo aſſign'd there a conſtant Serenity and Equality of the Heavens, and ſometimes expreſly a conſtant Æquinox; as might be made appear from their Authors. And ſome of our Chriſtian Authors have gone farther, and connected theſe two together, as Cauſe and Effect, for they ſay that the Longævity of the Antediluvian Patriarchs proceeded from a favourable Aſpect and Influence of the Heavens at that time; which *Aſpect* of the Heavens, being rightly interpreted, is the ſame thing that we call the Poſition of the Heavens, or the right Situation of the Sun and the Earth, from whence came a perpetual Æquinox: And if we conſider the preſent Earth, I know no Place where they live longer than in that little Iſland of the *Bermudas*, where, according to the Proportion of time they hold out there, after they are arriv'd from other Parts, one may reaſonably ſuppoſe, that the Natives would live two hundred Years. And there's nothing appears in that Iſland that ſhould give long Life above other Places, but the extraordinary Steadineſs of the Weather, and of the Temper of the Air throughout the whole Year, ſo as there is ſcarce any conſiderable Difference of Seaſons.

But becauſe it would take up too much time to ſhow in this place the full and juſt Reaſons why, and how theſe long Periods of Life depend upon the Stability of the Heavens: And how on the contrary, from their Inconſtancy and Mutability theſe Periods are ſhorten'd, as in the preſent Order of Nature; we will ſet apart the next Chapter to treat upon that Subject; yet by way of Digreſſion only, ſo as thoſe that have a Mind may paſs to the following, where the Thread of this Diſcourſe is continued. In the mean time you ſee, we have prepar'd an Earth for *Paradiſe*, and given a fair and intelligible Account of thoſe three general Characters, which, according to the Rules of Method, muſt be determin'd before any further Progreſs can be made in this Argument. For in the Doctrine of *Paradiſe* there are two things to be conſider'd, the State of it, and the Place of it; And as it is firſt in Order of Nature, ſo it is much more material, to find out the State of it, than the Region where it ſtood. We need not follow the Windings of Rivers, and the Interpretation of hard Names, to diſcover this, we take more faithful Guides. The unanimous Reports of Antiquity, ſacred and profane, ſupported by a regular Theory. Upon theſe Grounds we go, and have thus far proceeded on our Way; which we hope will grow more eaſy and pleaſant, the nearer we come to our Journey's End.

CHAP. IV.

A Digreſſion concerning the natural Cauſes of Longævity. That the Machine of an Animal conſiſts of Springs, and which are the two principal. The Age of the Antediluvians to be computed by Solar *not* Lunar *Years.*

TO confirm our Opinion concerning the Reaſons of Longævity in the firſt Inhabitants of the World, it will not be amiſs to deduce more at large the natural Cauſes of *long* or *ſhort Periods of Life.* And when we ſpeak of long or ſhort Periods of Life, we do not mean thoſe little Differences of ten, twenty, or forty Years, which we ſee amongſt Men now-a-days, according as they are of ſtronger or weaker Conſtitutions, and govern themſelves better or worſe; but thoſe grand and famous Differences of ſeveral hundreds of Years, which we have Examples of in the different Ages of the World, and particularly in thoſe that liv'd before and ſince the Flood. Neither do we think it peculiar to this Earth to have ſuch an Inequality in the Lives of Men; but the other Planets, if they be inhabited, have the ſame Property, and the ſame Difference in their different Periods: All Planets that are in their Antediluvian State, and in their firſt and regular Situation to the Sun, have long-liv'd Inhabitants; and thoſe, that are in an oblique Situation, have ſhort-liv'd; unleſs there be ſome counter Cauſes that hinder this general Rule of Nature from taking Place.

We are now ſo us'd to a ſhort Life, and to drop away after threeſcore or fourſcore Years, that when we compare our Lives with thoſe of the Antediluvians, we think the Wonder lies wholly on their Side, *why* they liv'd ſo long; and ſo it doth, popularly ſpeaking; but if we ſpeak philoſophically, the Wonder lies rather on our Side, *why* we live ſo little, or ſo ſhort a Time: For ſeeing our Bodies are ſuch Machines as have a Faculty of nouriſhing themſelves, that is, of repairing their loſt or decay'd Parts, ſo long as they have good Nouriſhment to make uſe of, why ſhould they not continue in good Plight, and always the ſame, as a Flame does, ſo long as it is ſupplied with Fewel? And that we may the better ſee on whether Side the Wonder lies, and from what Cauſes it proceeds, we will propoſe this Problem to be examin'd, *Why the Frame or Machine of an humane Body, or of another Animal, having that Conſtruction of Parts, and thoſe Faculties which it hath, laſts ſo ſhort a Time?* And tho' it fall into no Diſeaſe, nor have any unnatural Accident, within the Space of eighty Years, more or leſs, fatally and inevitably decays, dies and periſheth?

That the State and Difficulty of this Queſtion may the better appear, let us conſider a Man in the Prime and Vigour of his Life, at the Age of twenty or twenty four Years, of an healthful Conſtitution, and all his Vitals ſound; let him be nouriſh'd with good Food, uſe due Exerciſe, and govern himſelf with Moderation in all other things; the Queſtion is, Why this Body ſhould not continue in the ſame Plight, and in the ſame Strength, for ſome Ages? or at leaſt why it ſhould decay ſo ſoon, and ſo faſt as we ſee it does? We do not wonder at Things that happen daily, though the Cauſes of them be never ſo hard to find out; we contract a certain Familiarity with common Events, and fancy we know as much of them as can be known, tho' in Reality we know nothing of them but Matter of Fact; which the Vulgar know as well as the Wiſe or the Learned. We ſee daily Inſtances of the Shortneſs of Man's Life, how ſoon his Race is run, and we do not wonder at it, becauſe 'tis common; yet if we examine the Compoſition of the Body, it will be very hard to find any good Reaſons why the Frame of it ſhould decay ſo ſoon.

I know 'tis eaſy to give general and ſuperficial Anſwers and Accounts of theſe Things; but they are ſuch, as, being ſtrictly examin'd, give no Satisfaction to an inquiſitive Mind: You would ſay, it may be, that the interior Parts and Organs of the Body wear and decay by Degrees, ſo as not performing ſo well their ſeveral Offices and Functions, for the Digeſtion and Diſtribution of the Food and its Juices, all the other Parts ſuffer by it, and draws on inſenſibly a Decay upon the whole Frame of the Body. This is all true; but why, and how comes this to paſs? from what Cauſes? where is the firſt Failure, and what are the Conſequences of it? The inward Parts do not deſtroy themſelves, and we ſuppoſe that there is no want of good Food, nor any Diſeaſe, and we take the Body in its full Strength and Vigour, why doth it not continue thus, as a Lamp does, if you ſupply it with Oil? The Cauſes being the ſame, why doth not the ſame Effect ſtill follow? Why ſhould not the Flame of Life, as well as any other Flame, if you give it Fewel, continue in its Force without Languiſhing or Decay?

You will ſay, it may be, the Caſe is not the ſame in a ſimple Body, ſuch as a Lamp or a Fire, and in an organical Body; which being variouſly compounded of Multiplicity of Parts, and all thoſe Parts put in Connexion and Dependance one upon another, if any one fail, it will diſorder the whole Frame; and therefore it muſt needs be more difficult for ſuch a Body to continue long in the ſame State, than for a ſimple Body, that hath no Variety of Parts or Operations. I acknowledge ſuch a Body is much more ſubject to Diſeaſes and Accidents than a more ſimple; but barring all Diſeaſes and Accidents, as we do, it might be of as long a Duration as any other, if it was ſupply'd with Nouriſhment adequately to all its Parts: As this Lamp we ſpeak of, if it conſiſted of twenty Branches, and each of theſe Branches was to be fed with a different Oil, and theſe Oils could be all mix'd together in ſome common Ciſtern, whence they were to be diſtributed into the ſeveral Branches, either according to their different Degrees of Lightneſs, one riſing higher than another; or according to the Capacity and Figure of the little Pipes they were to paſs thro'; ſuch a compounded Lamp, made up of ſuch Artifices, would indeed be more ſubject to Accidents, and to be out of Order, by the Obſtruction of ſome of the little Pipes, or ſome unfit Qualities in the Oils; but all theſe Caſualties and Diſorders excepted, as they are in our Caſe, if it was ſupply'd with convenient Liquors, it would burn as long as any other, tho' more plain and ſimple.

To inſtance yet, for more Plainneſs, in another ſort of Machine; ſuppoſe a Mill, where the Water may repreſent the Nouriſhment and Humours in our Body, and the Frame of Wood and Stone, the ſolid Parts; if we could ſuppoſe this Mill to have a Power of nouriſhing itſelf by the Water it receiv'd, and of repairing all the Parts that were worn away, whether of the Wood-work or of the Stone, feed it but with a conſtant Stream, and it would ſubſiſt and grind for ever. And 'tis the ſame Thing for all other artificial Machines of this Nature, if they had a Faculty of nouriſhing themſelves, and repairing their Parts. And ſeeing thoſe natural Machines we are ſpeaking of, the Body of Man, and of other Animals, have and enjoy this Faculty, why ſhould they not be able to preſerve themſelves beyond that ſhort Period of Time which is now the Meaſure of their Life?

Thus much we have ſaid to ſhew the Difficulty propos'd, and inforce it; we muſt now conſider the true Anſwer and Reſolution of it; and to that purpoſe bring into View again thoſe Cauſes which we have aſſign'd, both of the long Periods of Life before the Flood, and of the ſhort ones ſince. That there was a perpetual Æquinox and Stability of the Heavens before the Flood, we have ſhow'd both from Hiſtory and Reaſon; neither was there then any thing of Clouds, Rains, Winds, Storms, or unequal Weather, as will appear in the following Chapter; and to this Steadineſs of Nature, and univerſal Calmneſs of the external World, we have imputed thoſe long Periods of Life which Men enjoy'd at that time: As on the contrary, when that great Change and Revolution happen'd to Nature at the Deluge, and the Heavens and the Earth were caſt in another Mould, then was brought in, beſide many other new Scenes, that Shortneſs and Vanity in the Life of Man, and a general Inſtability in all ſublunary Things, but eſpecially in the animate World.

It is not neceſſary to ſhow, more than we have done already, how that primitive State of Nature contributed to long Life; neither is it requir'd that it ſhould actively contribute, but only be permiſſive, and ſuffer our Bodies to act their Parts; for if they be not diſturb'd, nor any Harm done them by external Nature, they are built with Art and Strength enough to laſt many hundreds of Years. And as we obſerv'd before concerning the Poſture of the Earth, that that which it had at firſt, being ſimple and regular, was not ſo much to be accounted for, as its preſent Poſture, which is irregular; ſo likewiſe for the Life of Man, the Difficulty is not why they liv'd ſo long in the old World; that was their due and proper Courſe; but why our Bodies, being made after the ſame Manner, ſhould endure ſo ſhort a time now. This is it therefore which we muſt now make our Buſineſs to give an Account of, namely, how that Viciſſitude of Seaſons, Inconſtancy of the Air, and unequal Courſe of Nature, which came in at the Deluge, do ſhorten *Life*; and indeed haſten the Diſſolution of all Bodies, animate or inanimate.

In our Bodies we may conſider three ſeveral Qualities or Diſpoſitions, and according to each whereof they ſuffer Decay: Firſt, Their Continuity; Secondly, That Diſpoſition whereby they are capable of receiving Nouriſhment, which we may call Nutribility; and Thirdly, The Tone or tonick Diſpoſition of the Organs, whereby they perform their ſeveral Functions. In all theſe three Reſpects they would decay in any State of Nature, but far ſooner and faſter in the preſent State than in the primæval. As for their Continuity, we have noted before that all conſiſtent Bodies muſt be leſs durable now, than under that firſt Order of the World, becauſe of the unequal and contrary Motions of the Elements, or of the Air and Æther that penetrate and pervade them; and 'tis Part of that Vanity which all Things now are ſubject to, to be more periſhable than in their firſt Conſtitution. If we ſhould conſider our Bodies only as breathing Statues, conſiſting of thoſe Parts they do, and of that Tenderneſs, the Air which we breath, and wherewith we are continually incompaſt, changing ſo often 'twixt moiſt and dry, hot and cold, a ſlow and eager Motion, theſe different Actions and reſtleſs Changes would ſooner weaken and deſtroy the Union of the Parts, than if they were always in a calm and quiet *Medium.*

But it is not the groſs and viſible Continuity of the Parts of our Body that firſt decays; there are finer Textures that are ſpoil'd inſenſibly, and draw on the Decay of the reſt; ſuch are thoſe other two we mention'd; that Diſpoſition and Temper of the Parts whereby they are fit to receive their full Nouriſhment; and eſpecially that Conſtruction and Texture of the Organs that are preparatory to this Nutrition. The Nutribility of the Body depends upon a certain Temperament in the Parts, ſoft and yielding, which makes them open to the Blood and Juices in their Circulation and Paſſage thro' them, and mixing intimately and univerſally, hold faſt and retain many of their Particles; as muddy Earth doth the Parts of the Water that runs into it and mixeth with it: And when theſe nutritious Particles retain'd are more than the Body ſpends, that Body is in its Growth; as when they are fewer, 'tis in its Decay. And as we compar'd the Fleſh and tender Parts, when they are young and in a growing Diſpoſition, to a muddy Soil, that opens to the Water, ſwells and incorporates with it; ſo when they become hard and dry, they are like a ſandy Earth, that ſuffers the Water to glide thro' it, without incorporating or retaining many of its Parts; and the ſooner they come to this Temper, the ſooner follows their Decay: For the ſame Cauſes, that ſet Limits to our Growth, ſet alſo Limits to our Life; and he that can reſolve that Queſtion, *why* the Time of our *Growth* is ſo ſhort, will alſo be able to reſolve the other in a good meaſure, *why* the Time of our *Life* is ſo ſhort. In both Caſes, that which ſtops our Progreſs is external Nature, whoſe Courſe, while it was even and ſteady, and the ambient Air mild and balmy, preſerv'd the Body much longer in a freſh and fit Temper to receive its full Nouriſhment, and conſequently gave larger Bounds both to our Growth and Life.

But the third thing we mention'd is the moſt conſiderable, The Decay of the Organick Parts; and eſpecially of the Organs preparatory to Nutrition. This is the Point chiefly to be examin'd and explain'd, and therefore we will endeavour to ſtate it fully and diſtinctly. There are ſeveral Functions in the Body of an Animal, and ſeveral Organs for the Conduct of them; and

I am of Opinion, that all the Organs of the Body are in the Nature of Springs, and that their Action is tonical. The Action of the Muſcles is apparently ſo, and ſo is that of the Heart and the Stomach; and as for thoſe Parts, that make Secretions only, as the *Glandules* and *Parenchymata*, if they be any more than merely paſſive, as Strainers, 'tis the Tone of the Parts, when diſtended, that performs the Separation: And accordingly in all other active Organs, the Action proceeds from a Tone in the Parts. And this ſeems to be eaſily prov'd, both as to our Bodies, and all other Bodies; for no Matter that is not fluid, hath any Motion or Action in it, but in virtue of ſome Tone; if Matter be fluid, its Parts are actually in Motion, and conſequently may impel or give Motion to other Bodies; but if it be ſolid or conſiſtent, the Parts are not ſeparate or ſeparately mov'd from one another, and therefore cannot impel or give motion to any other, but in virtue of their Tone; they having no other Motion themſelves. Accordingly we ſee in Artificial Machines there are but two general Sorts, thoſe that move by ſome fluid or volatile Matter, as Water, Wind, Air, or ſome active Spirit; and thoſe which move by Springs, or by the Tonick Diſpoſition of ſome Part that gives Motion to the reſt: For as for ſuch Machines as act by Weights, 'tis not the Weight that is the active Principle, but the Air or Æther that impels it. 'Tis true, the Body of an Animal is a kind of mixt Machine, and thoſe Organs that are the primary Parts of it, partake of both theſe Principles; for there are Spirits and Liquors that do aſſiſt in the Motions of the Muſcles, of the Heart and of the Stomach; but we have no Occaſion to conſider them at preſent, but only the Tone of the ſolid Organs.

This being obſerv'd in the firſt Place, *wherein* the Force of our Organs conſiſts, we might here immediately ſubjoin, how this Force is weaken'd and deſtroy'd by the unequal Courſe of Nature which now obtains, and conſequently our Life ſhorten'd; for the whole State and Oeconomy of the Body depends upon the Force and Action of theſe Organs. But to underſtand the Buſineſs more diſtinctly, it will be worth our Time to examine upon which of the Organs of the Body Life depends more immediately, and the Prolongation of it; that ſo reducing our Inquiries into a narrower Compaſs, we may manage them with more Eaſe and more Certainty.

In the Body of Man there are ſeveral *Compages*, or Sets of Parts, ſome whereof need not be conſider'd in this Queſtion; there is that Syſtem that ſerves for Senſe and local Motion, which is commonly call'd the ANIMAL Compages; and that which ſerves for Generation, which is call'd the GENITAL. Theſe have no Influence upon long Life, being Parts nouriſhed, not nouriſhing, and that are fed from others as Rivers from their Fountain: Wherefore having laid theſe aſide, there remain two Compages more, the NATURAL and VITAL, which conſiſt of the Heart and Stomach, with their Appendages.

Theſe are the Sources of Life, and theſe are all that is abſolutely neceſſary to the Conſtitution of a living Creature; what Parts we find more, few or many, of one ſort or other, according to the ſeveral Kinds of Creatures, is accidental to our Purpoſe: The Form of an Animal, as we are to conſider it here, lies in this little Compaſs, and what is ſuperadded is for ſome new Purpoſes beſides that of mere Life, as for Senſe, Motion, Generation, and ſuch like. As in a Watch, beſide the Movement, which is made to tell you the Hour of the Day, which conſtitutes a Watch; you may have a Fancy to have an Alarm added, or a Minute-motion, or that it ſhould tell you the Day of the Month; and this ſometimes will require a new Spring, ſometimes only new Wheels; however, if you would examine the Nature of a Watch, and upon what its Motion, or, if I may ſo ſay, its Life depends, you muſt lay aſide thoſe ſecondary Movements, and obſerve the main Spring, and the Wheels that immediately depend upon that, for all the reſt is accidental. So for the Life of an Animal, which is a Piece of Nature's Clock-work, if we would examine upon what the Duration of it depends, we muſt lay aſide thoſe additional Parts or Syſtems of Parts, which are for other Purpoſes, and conſider only the firſt Principles and Fountains of Life, and the Cauſes of their natural and neceſſary Decay.

Having thus reduc'd our Inquiries to theſe two Organs, the Stomach and the Heart, as the two Maſter-Springs in the Mechaniſm of an Animal, upon which all the reſt depend, let us now ſee what their Action is, and how it will be more or leſs durable and conſtant, according to the different States of external Nature. We determin'd before, that the Force and Action of all Organs in the Body was tonical, and of none more remarkably than of theſe two, the Heart and Stomach; for tho' it be not clearly determin'd what the particular Structure of theſe Organs, or of their Fibres is, that makes them tonical, yet 'tis manifeſt by their Actions that they are ſo. In the Stomach, beſides a peculiar Ferment that opens and diſſolves the Parts of the Meat, and melts them into a Fluor or Pulp; the Coats of it, or Fibres whereof they conſiſt, have a Motion proper to them, proceeding from their Tone, whereby they cloſe the Stomach, and compreſs the Meat when it is receiv'd, and when turn'd into Chyle, preſs it forwards, and ſqueeze it into the Inteſtines; and the Inteſtines alſo partaking of the ſame Motion, puſh and work it ſtill forwards into thoſe little Veins that convey it towards the Heart. The Heart hath the ſame general Motions with the Stomach, of opening and ſhutting, and hath alſo a peculiar Ferment which rarifies the Blood that enters into it; and that Blood, by the Spring of the Heart, and the particular Texture of its Fibres, is thrown out again to make its Circulation thro' the Body. This is, in ſhort, the Action of both theſe Organs; and indeed the Myſtery of the Body of an Animal, and of its Operations and Oeconomy, conſiſts chiefly in Springs and Ferments; the one for the ſolid Parts, the other in the fluid.

But to apply this Fabrick of the organick Parts to our purpoſe, we may obſerve and conclude, that whatſoever weakens the Tone or Spring of theſe two Organs, which are the Baſes of all Vitality, weaken the Principle of Life, and ſhorten the natural Duration of it; and if of two Orders or Courſes of Nature, the one be favourable and eaſy to theſe tonick Principles in the Body, and the other uneaſy and prejudicial, that Courſe of Nature will be attended with long Periods of Life, and this with ſhort. And we have ſhewn, that in the primitive Earth the Courſe of Nature was even, ſteady and unchangeable, without either different Qualities of the Air, or unequal Seaſons of the Year, which muſt needs be more eaſy to theſe Principles we ſpeak of, and permit them to continue longer in their Strength and Vigour, than they can poſſibly do under all thoſe Changes of the Air, of the Atmoſphere, and of the Heavens, which we now ſuffer yearly, monthly, and daily. And tho' ſacred Hiſtory had not acquainted us with the Longævity of the Antediluvian Patriarchs, nor profane Hiſtory with thoſe of the Golden Age, I ſhould have concluded from the Theory alone, and the Contemplation of that State of Nature, that the Forms of all Things were much more permanent in that World than in ours, and that the Lives of Men and all other Animals had longer Periods.

I confeſs, I am of Opinion, that 'tis this that makes not only theſe living Springs or tonick Organs of the Body, but all artificial Springs alſo, tho' made of the hardeſt Metal, decay ſo faſt. The different Preſſure of the Atmoſphere, ſometimes heavier, ſometimes lighter, more rare or more denſe, moiſt or dry, and agitated with different Degrees of Motion, and in different Manners; this muſt needs operate upon that nicer Contexture of Bodies, which makes them tonical or elaſtick; altering the Figure or Minuteneſs of the Pores, and the Strength and Order of the Fibres upon which that Propriety depends; bending and unbending, cloſing and opening the Parts. There is a ſubtle and æthereal Element that traverſeth the Pores of all Bodies, and when 'tis ſtraiten'd and pent up there, or ſtopt in its uſual Courſe and Paſſage, its Motion is more quick and eager, as a Current of Water, when 'tis obſtructed or runs thro' a narrower Channel; and that Strife and thoſe Attempts which theſe little active Particles make to get free, and follow the ſame Tracks they did before, do ſtill preſs upon the Parts of the Body that are chang'd, to redreſs and reduce them to their firſt and natural Poſture, and in this conſiſts the Force of a Spring. Accordingly we may obſerve, that there is no Body that is or will be tonical or elaſtick, if it be left to itſelf, and to that Poſture it would take naturally; for then all the Parts are at eaſe, and the ſubtle Matter moves freely and uninterruptedly within its Pores; but if by Diſtention, or by Compreſſion, or by Flexion, or any other Way, the Situation of the Parts and Pores be ſo alter'd, that the Air ſometimes, but for the moſt part that ſubtiler Element, is uneaſy and compreſt too much, it cauſeth that Renitency or Tendency to Reſtitution, which we call the Tone or Spring of a Body. Now as this Diſpoſition of Bodies doth far more eaſily periſh than their Continuity, ſo I think there is nothing that contributes more to its periſhing (whether in natural or artificial Springs) than the unequal Action and different Qualities of the Æther, Air, and Atmoſphere.

It will be objected to us, it may be, that in the beginning of the Chapter we inſtanc'd in artificial Things, that would continue for ever, if they had but the Power of nouriſhing themſelves, as Lamps, Mills, and ſuch like; why then may not natural Machines that have that Power laſt for ever? The Caſe is not the ſame as to the Bodies of Animals, and the Things there inſtanc'd in, for thoſe were ſpringleſs Machines, that act only by ſome external Cauſe, and not in Virtue of any Tone or interior Temper of the Parts, as our Bodies do; and when that Tone or Temper is deſtroy'd, no Nouriſhment can repair it. There is ſomething, I ſay, irreparable in the tonical Diſpoſition of Matter, which when wholly loſt cannot be reſtor'd by Nutrition. Nutrition may anſwer to a bare Conſumption of Parts; but where the Parts are to be preſerv'd in ſuch a Temperament, or in ſuch a Degree of Humidity and Drineſs, Warmth, Rarity or Denſity, to make them capable of that Nouriſhment, as well as of their other Operations, as Organs, (which is the Caſe of our Bodies) there the Heavens, the Air, and external Cauſes will change the Qualities of the Matter in ſpite of all Nutrition; and the Qualities of the Matter being chang'd, (in a Courſe of Nature, where the Cauſe cannot be taken away) that is a Fault incorrigible, and irreparable by the Nouriſhment that follows, being hinder'd of its Effect by the Indiſpoſition or Incapacity of the Recipient. And as they ſay, a Fault in the firſt Concoction cannot be corrected in the ſecond; ſo neither can a Fault in the Prerequiſites to all the Concoctions be corrected by any of them.

I know the Ancients made the Decay and Term of Life to depend rather upon the Humours of the Body, than the ſolid Parts, and ſuppos'd an *Humidum radicale* and a *Calidum innatum*, as they call them, a radical Moiſture and congenit Heat to be in every Body from its Birth and firſt Formation; and as theſe decay'd, Life decay'd. But who's wiſer for this Account, what doth this inſtruct us in? We know there is Heat and Moiſture in the Body, and you may call the one *Radical*, and the other *Innate* if you pleaſe; this is but a ſort of Cant, for we know no more of the real phyſical Cauſes of that Effect we enquir'd into, than we did before. What makes this Heat and Moiſture fail, if the Nouriſhment be good, and all the Organs in their due Strength and Temper? The firſt and original

Failure is not in the Fluid, but in the ſolid Parts, which if they continued the ſame, the Humours would do ſo too. Beſides, What befel this radical Moiſture and Heat at the Deluge, that it ſhould decay ſo faſt afterwards, and laſt ſo long before? There is a certain Temper, no doubt, of the Juices and Humours of the Body, which is more fit than any other to conſerve the Parts from Drineſs and Decay; but the Cauſe of that Drineſs and Decay, or other Inability in the ſolid Parts, whence is that, if not from external Nature? 'Tis thither we muſt come at length in our Search of the Reaſons of the natural Decay of our Bodies, we follow the Fate and Laws of that: And, I think, by thoſe Cauſes, and in that Order, that we have already deſcrib'd and explain'd.

To conclude this Diſcourſe, we may collect from it what Judgment is to be made of thoſe Projectors of Immortality, or Undertakers to make Men live to the Age of *Methuſalah*, if they will uſe their Methods and Medicines: There is but one Method for this, To put the Sun into his old Courſe, or the Earth into its firſt Poſture; there is no other Secret to prolong Life; our Bodies will ſympathize with the general Courſe of Nature, nothing can guard us from it, no Elixir, no Specific, no Philoſopher's Stone. But there are Enthuſiaſts in Philoſophy, as well as in Religion; Men that go by no Principles, but their own Conceit and Fancy, and by a Light within, which ſhines very uncertainly, and for the moſt part leads them out of the Way of Truth. And ſo much for this Diſquiſition, concerning the *Cauſes* of *Longævity*, or of the long and ſhort Periods of Life in the different Periods of the World.

That the Age of the Antediluvian Patriarchs is to be computed by Solar *or common Years, not by* Lunar, *or Months.*

Having made this Diſcourſe of the unequal Periods of Life, only in reference to the Antediluvians and their fam'd Longævity, leſt we ſhould ſeem to have proceeded upon an ill-grounded and miſtaken Suppoſition, we are bound to take notice of, and confute, that Opinion which makes the Years of the Antediluvian Patriarchs to have been *Lunar*, not *Solar*, and ſo would bear us in hand, that they liv'd only ſo many Months as Scripture ſaith they liv'd Years. Seeing there is nothing could drive Men to this bold Interpretation but the Incredibility of the Thing, as they fancied; they having no Notions or *Hypotheſis* whereby it could appear intelligible or poſſible to them; and ſeeing we have taken away that Stumbling-ſtone, and ſhew'd it not only poſſible but neceſſary, according to the Conſtitution of that World, that the Periods of Life ſhould be far longer than in this; by removing the Ground or Occaſion of their Miſinterpretation, we hope we have undeceiv'd them, and let them ſee that there is no need of that Subterfuge, either to prevent an Incongruity, or ſave the Credit of the ſacred Hiſtorian.

But as this Opinion is inconſiſtent with Nature truly underſtood, ſo is it alſo with common Hiſtory; for beſides what I have already mention'd in the firſt Chapter of this Book, *Joſephus* tells us, (*Lib.* 1. *Jew. Ant. Chap.* 4.) that the Hiſtorians of all Nations, both *Greeks* and *Barbarians*, give the ſame Account of the firſt Inhabitants of the Earth; Manetho, *who writ the Story of the* Ægyptians; Beroſus, *who writ the* Chaldæan *Hiſtory, and thoſe Authors that have given us an Account of the* Phœnician *Antiquities*, *beſides* Molus *and* Heſtiæus, *and* Hieronymus *the* Egyptian; *and amongſt the* Greeks, Heſiodus, Hecateus, Hellanicus, Acuſilaus, Ephorus *and* Nicolaus: *We have the Suffrages of all theſe, and their common Conſent, that in the firſt Ages of the World Men liv'd a thouſand Years.* Now we cannot well ſuppoſe that all theſe Hiſtorians meant *Lunar* Years, or that they all conſpir'd together to make and propagate a Fable.

Laſtly, as Nature and profane Hiſtory do diſown and confute this Opinion, ſo much more doth ſacred Hiſtory; not indeed in profeſs'd Terms, for *Moſes* doth not ſay that he uſeth *Solar* Years; but by ſeveral Marks and Obſervations, or collateral Arguments, it may be clearly collected, that he doth not uſe *Lunar.* As firſt, becauſe he diſtinguiſheth *Months* and *Years* in the Hiſtory of the Deluge, and of the Life of *Noah*; for *Gen.* 7. 11. he ſaith in the ſixth hundredth Year of *Noah*'s Life, in the ſecond Month, *&c.* It cannot be imagin'd that in the ſame Verſe and Sentence theſe two

Terms of *Year* and *Month* ſhould be ſo confounded as to ſignify the ſame thing; and therefore *Noah*'s Years were not the ſame with Months, nor conſequently thoſe of the other Patriarchs, for we have no Reaſon to make any Difference. Beſides, what ground was there, or how was it proper or pertinent to reckon, as *Moſes* does there, firſt, ſecond, third Month, as ſo many going to a Year, if every one of them was a Year? And ſeeing the Deluge begun in the ſixth hundreth Year of *Noah*'s Life, and in the ſecond Month, and ended in the ſix hundredth and firſt Year, (*Chap*. 8. 13.) the firſt or ſecond Month, all that was betwixt theſe two Terms, or all the Duration of the Deluge, made but one Year in *Noah*'s Life, or it may be not ſo much; and we know *Moſes* reckons a great many Months in the Duration of the Deluge; ſo as this is a Demonſtration that *Noah*'s Years are not to be underſtood of *Lunar*. And to imagine that his Years are to be underſtood one way, and thoſe of his fellow-Patriarchs another, would be an unaccountable Fiction. This Argument therefore extends to all the Antediluvians, and *Noah*'s Life will take in the Poſtdiluvians too; for you ſee Part of it runs amongſt them, and ties together the two Worlds: So that if we exclude *Lunar* Years from his Life, we exclude them from all; thoſe of his Fathers, and thoſe of his Children.

Secondly, If *Lunar* Years were underſtood in the Ages of the Antediluvian Patriarchs, the Interval betwixt the Creation and the Deluge would be too ſhort, and in many Reſpects incongruous. There would be but 1656 Months from the Beginning of the World to the Flood; which, converted into common Years, make but 127 Years and five Months for that Interval. This perverts all Chronology, and beſides, makes the Number of People ſo ſmall and inconſiderable at the Time of the Deluge, that deſtroying of the World then was not ſo much as deſtroying of a Country Town would be now: For from one Couple you cannot well imagine there could ariſe above five hundred Perſons in ſo ſhort a Time; but if there were a thouſand, 'tis not ſo many as we have ſometimes in a good Country Village. And were the Flood-gates of Heaven open'd, and the great Abyſs broken up to deſtroy ſuch an Handful of People, and the Waters rais'd fifteen Cubits above the higheſt Mountains throughout the Face of the Earth, to drown a Pariſh or two? is not this more incredible than our Age of the Patriarchs? Beſides, This ſhort Interval doth not leave Room for ten Generations, which we find from *Adam* to the Flood, nor allows the Patriarchs Age enough at the Time when they are ſaid to have got Children. One hundred twenty-ſeven Years for ten Generations is very ſtrait; and of theſe you muſt take off forty-ſix Years for one Generation only, or for *Noah*, for he liv'd ſix hundred Years before the Flood, and if they were *Lunar*, they would come however to forty-ſix of our Years; ſo that for the other nine Generations you would have but eighty-one Years, that is, nine Years a-piece;

at which Age they muſt all be ſuppos'd to have begun to get Children; which you cannot but think a very abſurd Suppoſition. Thus it would be, if you divide the whole Time equally amongſt the nine Generations; but if you conſider ſome ſingle Inſtances, as they are ſet down by *Moſes*, 'tis ſtill worſe; for *Mahaleel* and his Grandchild *Enoch* are ſaid to have got Children at ſixty five Years of Age, which if you ſuppoſe Months, they were but five Years old at that time; now I appeal to any one, whether it is more incredible that Men ſhould live to the Age of nine hundred Years, or that they ſhould beget Children at the Age of five Years.

You will ſay, it may be, 'tis true theſe Inconveniencies follow, if our *Hebrew* Copies of the Old Teſtament be Authentick: but if the *Greek* Tranſlation by the *Septuagint* be of better Authority, as ſome would have it to be, that gives a little Relief in this Caſe; for the *Septuagint* make the Diſtance from the Creation to the Flood ſix hundred Years more than the *Hebrew* Text does, and ſo give us a little more room for our ten Generations: And not only ſo, but they have ſo conveniently diſpos'd thoſe additional Years, as to ſalve the other Inconvenience too, of the Patriarchs having Children ſo young; for what Patriarchs are found to have got Children ſooner than the reſt, and ſo ſoon, that, upon a Computation by *Lunar* Years, they would be but meer Children themſelves at that time, to theſe more Years are added, and plac'd opportunely, before the time of their getting Children; ſo as one can ſcarce forbear to think that it was done on purpoſe to cure that Inconvenience, and to favour and protect the Computation by *Lunar* Years. The thing looks ſo like an Artifice, and as done to ſerve a Turn, that one cannot but have a leſs Opinion of that Chronology for it.

But not to enter upon that Diſpute at preſent, methinks they have not wrought the Cure effectually enough; for with theſe ſix hundred *Lunar* Years added, the Sum will be only one hundred ſeventy three common Years and odd Months; and from theſe deducting, as we did before, for *Noah*, forty ſix Years, and for *Adam*, or the firſt Generation, about eighteen (for he was two hundred and thirty Years old, according to the *Septuagint*, when he begot *Seth*) there will remain but one hundred and nine Years for eight Generations; which will be thirteen Years a piece and odd Months; a low Age to get Children in, and to hold for eight Generations together. Neither is the other Inconvenience, we mention'd, well cur'd by the *Septuagint* Account, namely, the ſmall Number of People that would be in the World at the Deluge; for the *Septuagint* Account, if underſtood of *Lunar* Years, adds but forty ſix common Years to the *Hebrew* Account, and to the Age of the World at the Deluge, in which time there could be but a very ſmall Acceſſion to the Number of Mankind. So as both theſe Incongruities continue, though not in the ſame degree, and ſtand good in either Account, if it be underſtood of *Lunar* Years.

Thirdly, 'Tis manifeſt from other Texts of Scripture, and from other Conſiderations, that our firſt Fathers liv'd very long, and conſiderably longer than Men have done ſince; whereas if their Years be interpreted *Lunar*, there is not one of them that liv'd to the Age that Men do now; *Methuſalah* himſelf did not reach threeſcore and fifteen Years, upon that Interpretation; which doth depreſs them not only below thoſe that liv'd next to the Flood, but below all following Generations to this Day; and thoſe firſt Ages of the World, which were always celebrated for Strength and Vivacity, are made as weak and feeble as the laſt Dregs of Nature. We may obſerve, that after the Flood for ſome time, till the priſtine *Craſis* of the Body was broken by the new Courſe of Nature, they liv'd five, four, three, two hundred Years, and the Life of Men ſhorten'd by degrees; but before the Flood, when they liv'd longer, there was no ſuch Decreaſe or gradual Declenſion in their Lives. For *Noah*, who was the laſt, liv'd longer than *Adam*; and *Methuſalah*, who was laſt but two, liv'd the longeſt of all: So that it was not ſimply their Diſtance from the beginning of the World that made them live a ſhorter Time, but ſome Change which happen'd in Nature after ſuch a Period of Time; namely at the Deluge, when the Declenſion begun. Let's ſet down the Table of both States.

A TABLE

A TABLE of the Ages of the Antediluvian Fathers.

	Years.
Adam	930
Seth	912
Enos	905
Cainan	910
Mahaleel	895
Jared	962
Enoch	365
Methuſalah	969
Lamech	777
Noah	950

A TABLE of the Ages of the Poſtdiluvian Fathers, from Shem to Joſeph.

	Years.
Shem	600
Arphaxad	438
Salah	433
Eber	464
Peleg	239
Reu	239
Serug	230
Nahor	148
Terah	205
Abraham	175
Iſaac	180
Jacob	147
Joſeph	110

From theſe Tables we ſee that Mens Lives were much longer before the Flood, and next after it, than they are now; which alſo is confirm'd undeniably by *Jacob*'s Complaint of the Shortneſs of his Life, in Compariſon of his Foreſathers, when he had liv'd one hundred and thirty Years, *Gen.* 47. 9. *The Days of the Years of my Pilgrimage are an hundred and thirty Years; few and evil have the Days of the Years of my Life been, and have not attained unto the Days of the Years of the Life of my Fathers.* There were then, 'tis certain, long-liv'd Men in the World before *Jacob*'s Time; when were they, before the Flood or after? We ſay both, according as the Tables ſhew it. But if you count by *Lunar* Years, there never were any, either before or after, and *Jacob*'s Complaint was unjuſt and falſe; for he was the oldeſt Man in the World himſelf, or at leaſt there was none of his Foreſathers that liv'd ſo long as he.

The Patrons of this Opinion muſt needs find themſelves at a loſs, how or where to break off the Account of *Lunar* Years in ſacred Hiſtory, if they once admit it. If they ſay that way of counting muſt only be extended to the Flood, then they make the Poſtdiluvian Fathers longer liv'd than the Antediluvian; did the Flood bring in Longævity? how could that be the Cauſe of ſuch an Effect? Beſides, if they allow the Poſtdiluvians to have liv'd ſix hundred (common) Years, that being clearly beyond the Standard of our Lives, I ſhould never ſtick at two or three hundred Years more for the firſt Ages of the World. If they extend their *Lunar* Account to the Poſtdiluvians too, they will ſtill be intangled in worſe Abſurdities; for they muſt make their Lives miſerably ſhort, and their Age of getting Children altogether incongruous and impoſſible. *Nahor*, for Example, when he was but two Years and three Months old muſt have begot *Terah*, *Abraham*'s Father: And all the reſt betwixt him and *Shem* muſt have had Children before they were three Years old: A pretty Race of Pigmies. Then their Lives were proportionably ſhort, for this *Nahor* liv'd but eleven Years and ſix Months at this Rate; and his Grandchild *Abraham*, who is ſaid to have died *in a good old Age, and full of Years*, (*Gen.* 25. 8.) was not fourteen Years old. What a ridiculous Account this gives of Scripture-Chronolgy and Genealogies? But you'll ſay, it may be, theſe *Lunar* Years are not to be carried ſo far as *Abraham* neither; tell us then where you'll ſtop, and why you ſtop in ſuch a Place rather than another. If you once take in *Lunar* Years, what Ground is there in the Text, or in the Hiſtory, that you ſhould change your way of computing at ſuch a Time, or in ſuch a Place? All our ancient Chronology is founded upon the Books of *Moſes*, where the Terms and Periods of Times are expreſt by Years, and often by Genealogies and the Lives of Men: Now if theſe Years are ſometimes to be interpreted *Lunar*, and ſometimes *Solar*, without any Diſtinction made in the Text, what Light or certain Rule have we to go by? let theſe Authors name to us the Parts and Places where, and only where the *Lunar* Years are to be underſtood, and I dare undertake to ſhow, that their Method is not only arbitrary, but abſurd and incoherent.

To conclude this Diſcourſe, we cannot but repeat what we have partly obſerv'd before, How neceſſary it is to underſtand Nature, if we would rightly underſtand thoſe Things in holy Writ that relate to the natural World. For without this Knowledge, as we are apt to think ſome Things conſiſtent and credible that are really impoſſible in Nature; ſo on the other hand, we are apt to look upon other Things as incredible and impoſſible that are really founded in Nature. And ſeeing every one is willing ſo to expound Scripture, as it may be to them good Senſe, and conſiſtent with their Notions in other Things, they are forc'd many times to go againſt the eaſy and natural Importance of the Words, and to invent other Interpretations more compliant with their Principles, and, as they think, with the Nature of Things. We have, I ſay, a great Inſtance of this before us in the Scripture-Hiſtory of the long Lives of the Ante-diluvians, where, without any Ground or Shadow of Ground in the Narration, only to comply with a miſtaken Philoſophy, and their Ignorance of the primitive World, many Men would beat down the Scripture Account of Years into Months, and ſink the Lives of thoſe firſt Fathers below the Rate of the worſt of Ages. Whereby that great Monument, which Providence hath left us of the firſt World, and of its Difference from the ſecond, would not only be defac'd, but wholly demoliſh'd. And all this ſprung only from the ſeeming Incredibility of the Thing; for they cannot ſhow in any Part of Scripture, new or old, that theſe *Lunar* Years are made uſe of, or that any Computation, literal or prophetical, proceeds upon them: Nor that there is any Thing in the Text or Context of that Place, that argues or intimates any ſuch Account. We have endeavour'd, upon this Occaſion, effectually to prevent this Miſconſtruction of ſacred Hiſtory for the future; both by ſhowing the Incongruities that follow upon it, and alſo that there is no Neceſſity from Nature of any ſuch Shift or Evaſion, as that is: But rather on the contrary, that we have juſt and neceſſary Reaſons to conclude, That as the Forms of all Things would be far more permanent and laſting in that primitive State of the Heavens and the Earth; ſo particularly the Lives of Men, and of other Animals.

◆

CHAP. V.

Concerning the Waters of the primitive Earth: What the State of the Regions of the Air was then, and how all Waters proceeded from them; How the Rivers aroſe, what was their Courſe, and how they ended. Some Things in ſacred Writ that confirm this Hydrography of the firſt Earth; eſpecially the Origin of the Rainbow.

HAving thus far clear'd our Way to *Paradiſe*, and given a rational Account of its general Properties; before we proceed to diſcourſe of the Place of it, there is one Affair of Moment, concerning this primitive Earth, that muſt firſt be ſtated and explain'd; and that is, *How* it was water'd; from what Cauſes, and in what Manner. How could Fountains riſe, or Rivers flow in an Earth of that Form and Nature? We have ſhut up the Sea with thick Walls on every Side, and taken away all Communication that could be 'twixt it and the external Earth; and we have remov'd all the Hills and the Mountains where the Springs uſe to riſe; and whence the Rivers deſcend to water the Face of the Ground: And laſtly, we have left no Iſſue for theſe Rivers, no Ocean to receive them, nor any other Place to disburden themſelves into: So that our new-found World is like to be a dry and barren Wilderneſs, and ſo far from being *Paradiſiacal*, that it would ſcarce be habitable.

I confeſs there was nothing in this whole Theory that gave ſuch a Stop to my Thoughts, as this Part of it, concerning the Rivers of the firſt Earth; how they roſe, how they flow'd, and how they ended. It ſeem'd at firſt, that we had wip'd away at once the Notion and whole Doctrine of Rivers, we had turn'd the Earth ſo ſmooth, that there was not an Hill or Riſing for the Head of a Spring, nor any Fall or Deſcent for the Courſe of a River: Beſides, I had ſuckt in the common Opinion of Philoſophers, That all Rivers riſe from the Sea, and return to it again; and both thoſe Paſſages, I ſee, were ſtopt up in that Earth. This gave me occaſion to reflect upon the modern and more ſolid Opinion concerning the Origin of Fountains and Rivers, That they riſe chiefly from Rains and melted Snows, and not from the Sea alone; and as ſoon as I had demur'd in that Particular, I ſaw it was neceſſary to conſider and examine how the Rains fell in that firſt Earth, to underſtand what the State of their Waters and Rivers would be.

And I had no ſooner apply'd my ſelf to that Inquiry, but I eaſily diſcover'd, that the Order of Nature in the Regions of the Air would be then very different from what it is now, and the Meteorology of the World was of another ſort from that of the preſent. The Air was always calm and equal, there could be no violent Meteors there, nor any that proceeded from Extremity of Cold; as Ice, Snow or Hail; nor Thunder neither; for the Clouds could not be of a Quality and Conſiſtency fit for ſuch an Effect, either by falling one upon another, or by their Diſruption. And as for Winds, they could not be either impetuous or irregular in that Earth; ſeeing there were neither Mountains nor any other Inequalities to obſtruct the Courſe of the Vapours; nor any unequal Seaſons, or unequal Action of the Sun, nor any contrary and ſtruggling Motions of the Air: Nature was then a Stranger to all thoſe Diſorders. But as for watery Meteors, or thoſe that riſe from watery Vapours more immediately, as Dews and Rains, there could not but be Plenty of theſe in ſome Part or other of that Earth; for the Action of the Sun in raiſing Vapours was very ſtrong and very conſtant, and the Earth was at firſt moiſt and ſoft, and according as it grew more dry, the Rays of the Sun would pierce more deep into it, and reach at length the great Abyſs which lay underneath, and was an unexhauſted Storehouſe of new Vapours. But, 'tis true, the ſame Heat, which extracted theſe Vapours ſo copiouſly, would alſo hinder them from condenſing into Clouds or Rain in the warmer Parts of the Earth; and there being no Mountains at that Time, nor contrary Winds, nor any ſuch Cauſes to ſtop them or compreſs them, we muſt conſider which way they would tend, and what their Courſe would be, and whether they would any where meet with Cauſes capable to change or condenſe them;

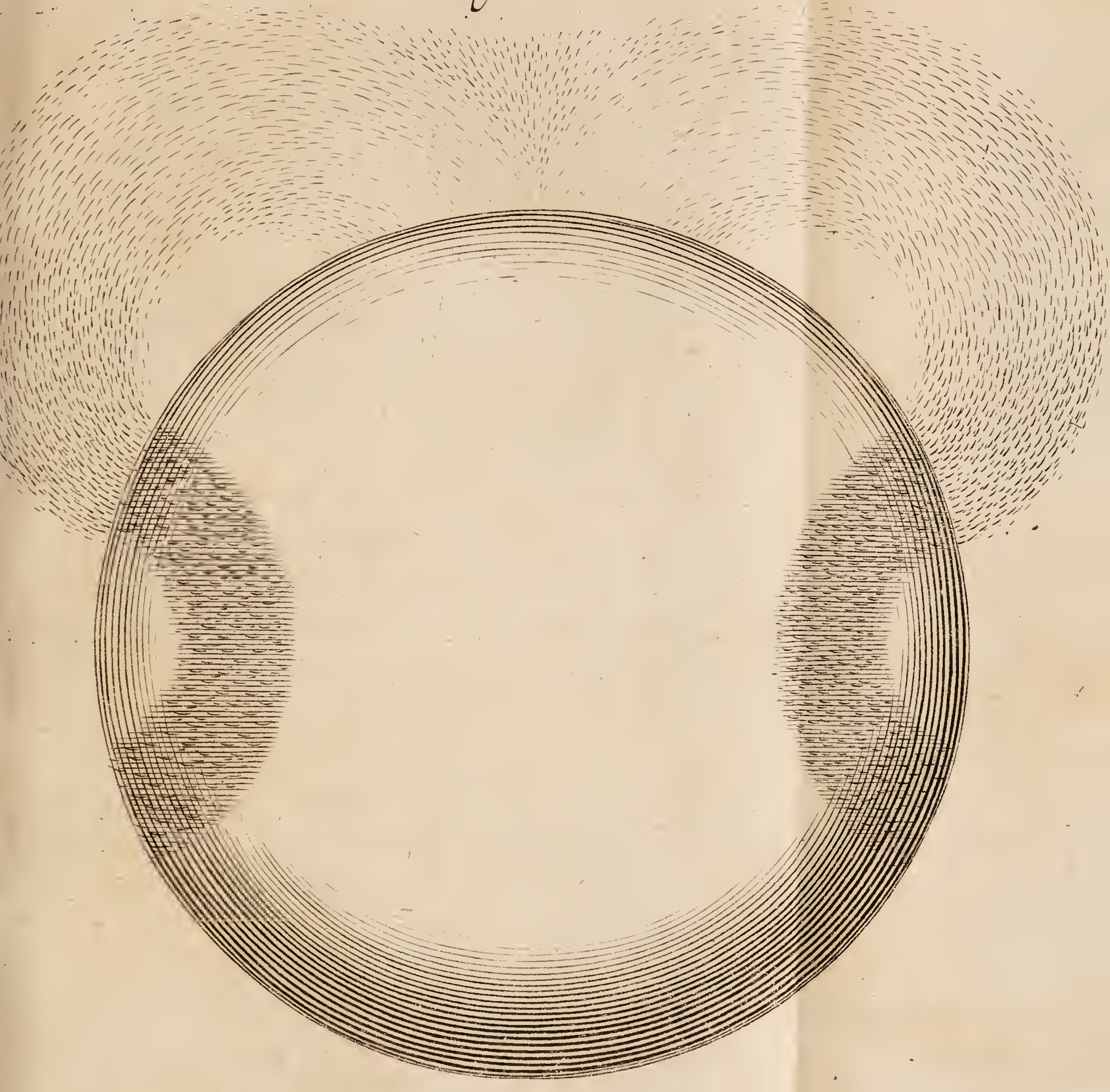
for upon this, 'tis manifeſt, would depend the Meteors of that Air, and the Waters of that Earth.

And as the Heat of the Sun was chiefly towards the middle Parts of the Earth, ſo the copious Vapours rais'd there were moſt rarified and agitated; and being once in the open Air, their Courſe would be that Way, where they found leaſt Reſiſtance to their Motion; and that would certainly be towards the Poles, and the colder Regions of the Earth. For Eaſt and Weſt they would meet with as warm an Air, and Vapours as much agitated as themſelves, which therefore would not yield to their Progreſs that Way; but towards the North and the South, they would find a more eaſy Paſſage, the Cold of thoſe Parts attracting them, as we call it, that is, making way to their Motion and Dilatation without much Reſiſtance, as Mountains and cold Places uſually draw Vapours from the warmer. So as the regular and conſtant Courſe of the Vapours of that Earth, which were rais'd chiefly about the Æquinoctial and middle Parts of it, would be towards the extream Parts of it, or towards the Poles.

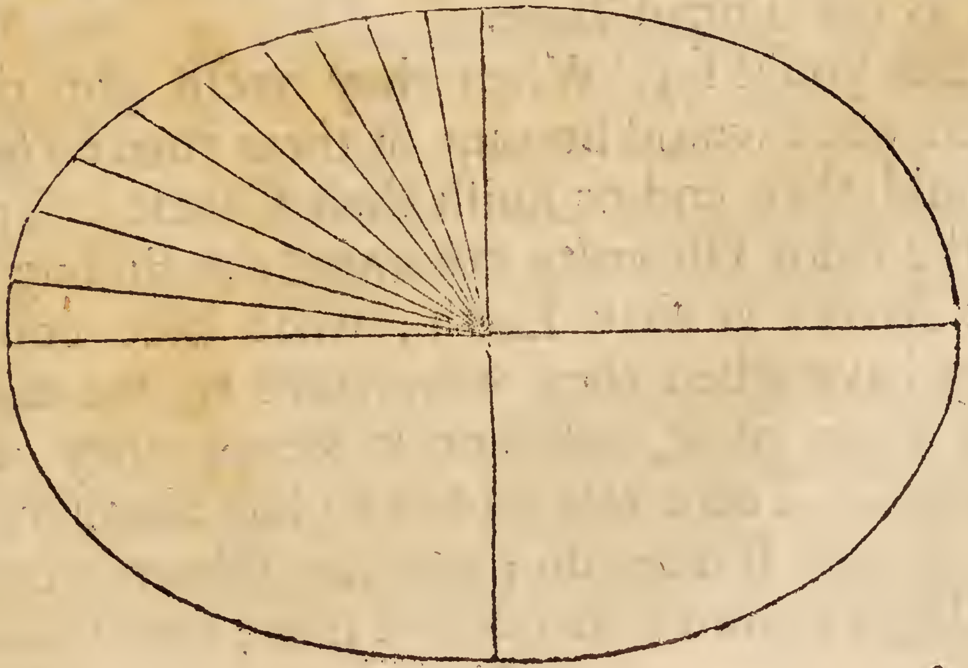
And in conſequence of this, when theſe Vapours were arriv'd in thoſe cooler Climates, and cooler Parts of the Air, they would be condens'd into Rain; for wanting there the Cauſe of their Agitation, namely, the Heat of the Sun, their Motion would ſoon begin to languiſh, and they would fall cloſer to one another in the Form of Water. For the Difference betwixt Vapours and Water is only gradual, and conſiſts in this, that Vapours are in a flying Motion, ſeparate and diſtant each from another; but the Parts of Water are in a creeping Motion, cloſe to one another; like a Swarm of Bees when they are ſettled; as Vapours reſemble the ſame Bees in the Air before they ſettle together. Now there is nothing puts theſe Vapours upon the Wing, or keeps them ſo, but a ſtrong Agitation by Heat; and when that fails, as it muſt do in all colder Places and Regions, they neceſſarily return to Water again. Accordingly therefore we muſt ſuppoſe they would ſoon, after they reacht theſe cold Regions, be condens'd, and fall down in a continual Rain or Dew upon thoſe Parts of the Earth. I ſay a *continual* Rain; for ſeeing the Action of the Sun, which rais'd the Vapours, was (at that Time) always the ſame, and the State of the Air always alike, nor any croſs Winds, nor any thing elſe that could hinder the Courſe of the Vapours towards the Poles, nor their Condenſation when arriv'd there; 'tis manifeſt there would be a conſtant Source or Store-houſe of Waters in thoſe Parts of the Air, and in thoſe Parts of the Earth.

And this, I think, was the eſtabliſht Order of Nature in that World, this was the State of the Antediluvian Heavens and Earth; all their Waters came from above, and that with a conſtant Supply and Circulation; for when the Croud of Vapours, rais'd about the middle Parts of the Earth, found Vent and Iſſue this Way towards the Poles, the Paſſage being once open'd, and the Channel made, the Current would be ſtill continued without Intermiſſion; and as they were diſſolv'd and ſpent there, they would ſuck in more and more of thoſe which followed, and came in freſh Streams from the hotter Climates. *Ariſtotle*, I remember, in his *Meteors*, ſpeaking of the Courſe of the Vapours, ſaith, there is a River in the Air, conſtantly flowing betwixt the Heavens and the Earth, made by the aſcending and deſcending Vapours: This was more remarkably true in the primitive Earth, where the State of Nature was more conſtant and regular; there was indeed an uninterrupted Flood of Vapours riſing in one Region of the Earth, and flowing to another, and there continually diſtilling in Dews and Rain, which made this aereal River. As may be eaſily apprehended from this Scheme of the Earth and Air.

Thus we have found a Source for Waters in the firſt Earth, which had no Communication with the Sea; and a Source that would never fail, neither diminiſh or overflow, but feed the Earth with an equal Supply throughout all the Parts of the Year. But there is a ſecond Difficulty that appears at the End of this, *how* theſe Waters would flow upon the even Surface of the Earth, or form themſelves into Rivers; there being no Deſcent or Declivity for their Courſe. There were no Hills, nor Mountains, nor high Lands in the firſt Earth, and if fig. 1st



theſe Rains fell in the Frigid Zones, or towards the Poles, there they would ſtand in Lakes and Pools, having no Deſcent one Way more than another; and ſo the reſt of the Earth would be no better for them. This, I confeſs, appear'd as great a Difficulty as the former, and would be unanſwerable, for ought I know, if that firſt Earth was not water'd by Dews only (as I believe ſome Worlds are) or had been exactly Spherical; but we noted before, that it was Oval or Oblong; and in ſuch a Figure 'tis manifeſt the polar Parts are higher than the æquinoctial, that is, more remote from the Center, as appears to the Eye in this Scheme. This affords us a preſent Remedy, and ſets us free of the ſecond Difficulty; for by this Means the Waters, which fell about the extreme Parts of the Earth, would have a continual Deſcent towards the middle Parts of it; this Figure gives them Motion and Diſtribution; and many Rivers and Rivulets would flow from thoſe Mother-Lakes to refreſh the Face of the Earth, bending their Courſe ſtill towards the middle Parts of it.



'Tis true, Theſe Derivations of the Waters at firſt would be very irregular and diffuſe, till the Channels were a little worn and hollow'd; and tho' that Earth was ſmooth and uniform, yet 'tis impoſſible, upon an inclining Surface, but that Waters ſhould find a Way of creeping downwards, as we ſee upon a ſmooth Table, or a flag'd Pavement, if there be the leaſt Inclination, Water will flow from the higher to the lower Parts of it, either directly, or winding to and fro: So the Smoothneſs of that Earth would be no Hindrance to the Courſe of the Rivers, provided there was a general Declivity in the Site and Libration of it, as 'tis plain there was from the Poles towards the Æquator. The Current indeed would be eaſy and gentle all along, and if it chanc'd in ſome Places to reſt or be ſtopt, it would ſpread it ſelf into a pleaſant Lake, till by freſh Supplies it had rais'd its Waters ſo high as to overflow and break looſe again; then it would purſue its Way, with many other Rivers its Companions, thro' all the temperate Climates as far as the Torrid Zone.

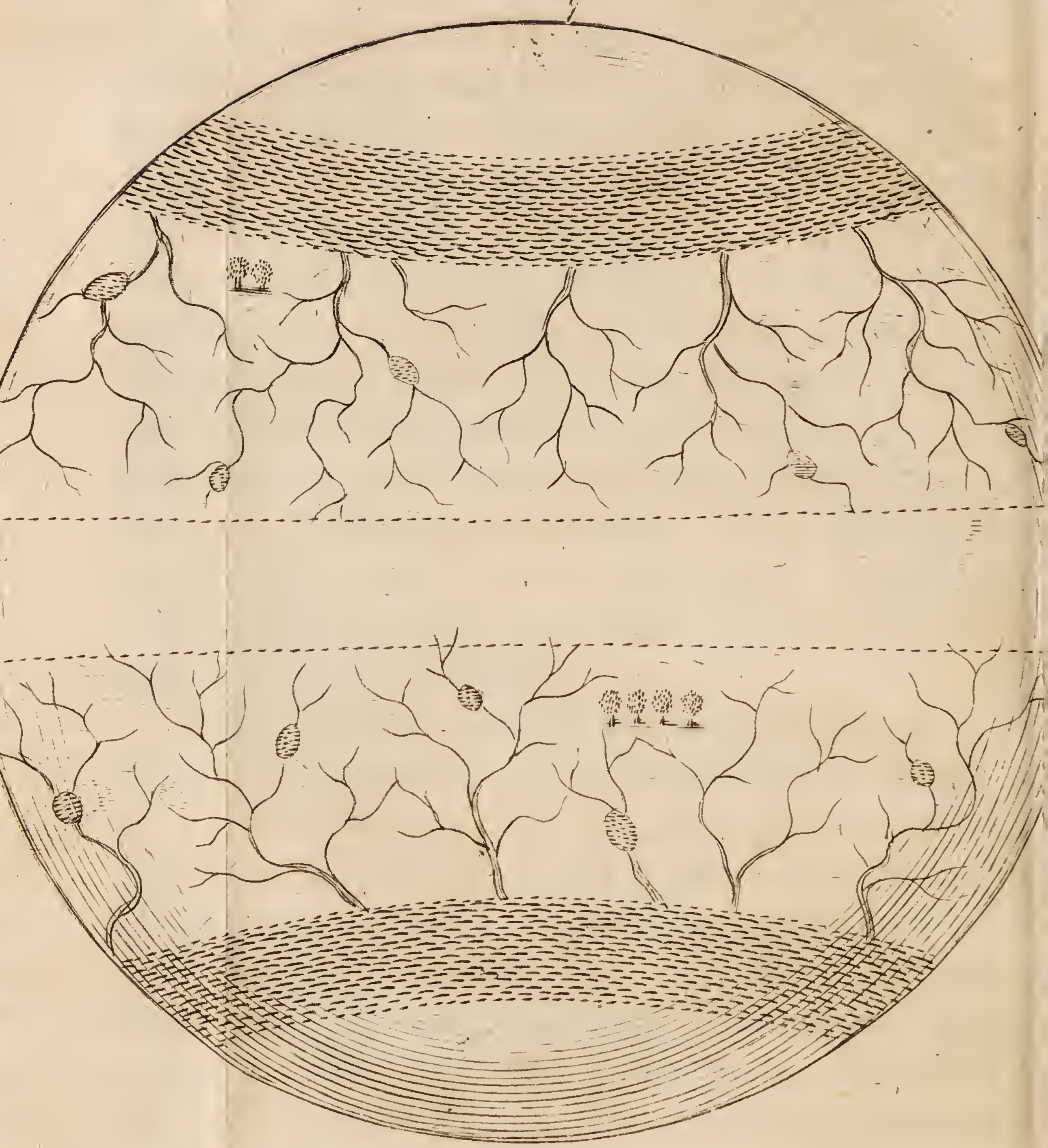
But you'll ſay, When they were got thither, what would become of them then? *How* would they end or finiſh their Courſe? This is the third Difficulty *concerning* the Ending of the Rivers in that Earth; what Iſſue could they have when they were come to the middle Parts of it, whither it ſeems they all tended? There was no Sea to loſe themſelves in, as our Rivers do; nor any ſubterraneous Paſſages to throw themſelves into; how would they die, what would be their Fate at laſt? I anſwer, The greater Rivers, when they were come towards thoſe Parts of the Earth, would be divided into many Branches, or a Multitude of Rivulets; and thoſe would be partly exhal'd by the Heat of the Sun, and partly drunk up by the dry and ſandy Earth. But how and in what Manner this came to paſs, requires a little further Explication.

We muſt therefore obſerve in the firſt Place, that thoſe Rivers, as they drew nearer to the æquinoctial Parts, would find a leſs Declivity or Deſcent of Ground than in the beginning or former Part of their Courſe; that is evident from the oval Figure of the Earth, for near the middle Parts of an Oval, the Semidiameters, as I may call them, are very little ſhorter one than another; and for this Reaſon the Rivers, when they were advanc'd towards the middle Parts of the Earth, would begin to flow more ſlowly, and, by that Weakneſs of their Current, ſuffer themſelves eaſily to be divided and diſtracted into ſeveral leſſer Streams and Rivulets; or elſe, having no Force to wear a Channel, would lie ſhallow upon the Ground like a Plaſh of Water; and in both Caſes their Waters would be much more expos'd to the Action of the Sun, than if they had kept together in a deeper Channel, as they were before.

Secondly, We muſt obſerve, that ſeeing theſe Waters could not reach to the Middle of the Torrid Zone, for want of Deſcent; that Part of the Earth having the Sun always perpendicular over it, and being refreſh'd by no Rivers, would become extremely dry and parch'd, and be converted at length into a kind of ſandy Deſart; ſo as all the Waters that were carried thus far, and were not exhal'd and conſum'd by the Sun, would be ſuckt up, as in a Spunge, by theſe Sands of the Torrid Zone. This was the common Grave wherein the Rivers of the firſt Earth were buried; and this is nothing but what happens ſtill in ſeveral Parts of the preſent Earth, eſpecially in *Africk*, where many Rivers never flow into the Sea, but expire after the ſame Manner as theſe did, drunk up by the Sun and the Sands. And one Arm of *Euphrates* dies, as I remember, amongſt the Sands of *Arabia*, after the Manner of the Rivers of the firſt Earth.

Thus we have conquer'd the greateſt Difficulty, in my Apprehenſion, in this whole Theory, *To* find out the State of the Rivers in the primitive and antediluvian Earth, their Origin, Courſe, and Period. We have been forc'd to win our Ground by Inches, and have divided the Difficulty into Parts, that we might encounter them ſingle with more Eaſe. The Rivers of the Earth, you ſee, were in moſt reſpects different, and in ſome contrary to ours; and if you could turn our Rivers backwards, to run from the Sea towards their Fountain-heads, they would more reſemble the Courſe of thoſe Antediluvian Rivers; for they were greateſt at their firſt ſetting out, and the Current afterwards, when it was more weak, and the Channel more ſhallow, was divided into

. 2d. fig. 2. p.



many Branches and little Rivers; like the Arteries in our Body, that carry the Blood; they are greateſt at firſt, and the further they go from the Heart, their Source, the leſs they grow and divide into a Multitude of little Branches, which loſe themſelves inſenſibly in the Habit of the Fleſh, as theſe little Floods did in the Sands of the Earth.

Becauſe it pleaſeth more, and makes a greater Impreſſion upon us, to ſee Things repreſented to the Eye, than to read their Deſcription in Words, we have ventur'd to give a Model of the Primæval Earth, with its Zones or greater Climates, and the general Order and Tracks of its Rivers: Not that we believe Things to have been in the very ſame Form as here exhibited; but this may ſerve as a general *Idea* of that Earth, which may be wrought into more Exactneſs, according as we are able to enlarge or correct our Thoughts hereafter. And as the Zones here repreſented reſemble the *Belts* or *Faſciæ* of *Jupiter*, ſo we ſuppoſe them to proceed from like Cauſes, if that Planet be in an Antediluvian State, as the Earth we here repreſent. As for the Polar Parts in that firſt Earth, I can ſay very little of them, they would make a Scene by themſelves, and a very particular one; the Sun would be perpetually in their Horizon, which makes me think the Rains would not fall ſo much there as in the other Parts of the Frigid Zones, where accordingly we have made their chief Seat and Receptacle. That they flow'd from thence in ſuch a like Manner as is here repreſented, we have already prov'd; and ſometimes in their Paſſage ſwelling into Lakes, and towards the End of their Courſe parting into ſeveral Streams and Branches, they would water thoſe Parts of the Earth like a Garden.

We have before compar'd the Branchings of theſe Rivers towards the End of their Courſe to the Ramifications of the Arteries in the Body, when they are far from the Heart near the extream Parts; and ſome, it may be, looking upon this Scheme, would carry the Compariſon further, and ſuppoſe, that as in the Body the Blood is not loſt in the Habit of the Fleſh, but ſtrain'd thorough it, and taken up again by the little Branches of the Veins; ſo in that Earth the Waters were not loſt in thoſe Sands of the Torrid Zone, but ſtrain'd or percolated thorough them, and receiv'd into the Channels of the other Hemiſphere. This indeed would in ſome Meaſure anſwer the Notion which ſeveral of the ancient Fathers make uſe of, that the Rivers of *Paradiſe* were trajected out of the other Hemiſphere into this by ſubterraneous Paſſages. But I confeſs I could never ſee it poſſible how ſuch a Trajection could be made, nor how they could have any Motion, being arriv'd in another Hemiſphere; and therefore I am apt to believe that Doctrine amongſt the Ancients aroſe from an Entanglement in their Principles: They ſuppos'd generally, that *Paradiſe* was in the other Hemiſphere, as we ſhall have occaſion to ſhow hereafter; and yet they believ'd that

Tygris, *Euphrates*, *Nile*, and *Ganges*, were the Rivers of *Paradiſe*, or came out of it; and theſe two Opinions they could not reconcile, or make out, but by ſuppoſing that theſe four Rivers had their Fountain-heads in the other Hemiſphere, and by ſome wonderful Trajection broke out again here. This was the Expedient they found out to make their Opinions conſiſtent one with another; but this is a Method to me altogether unconceivable; and, for my part, I do not love to be led out of my Depth, leaning only upon Antiquity. How there could be any ſuch Communication, either above Ground, or under Ground, betwixt the two Hemiſpheres, does not appear; and therefore we muſt ſtill ſuppoſe the Torrid Zone to have been the Barrier betwixt them, which nothing could paſs either Way.

We have now examin'd and determin'd the State of the Air, and of the Waters in the Primitive Earth, by the Light and Conſequences of Reaſon; and we muſt not wonder to find them different from the preſent Order of Nature; what things are ſaid of them, or relating to them in Holy Writ, do teſtify or imply as much; and it will be worth our time to make ſome Reflection upon thoſe Paſſages for our further Confirmation. *Moſes* tells us, that the *Rainbow* was ſet in the Clouds after the Deluge; thoſe Heavens then, that never had a Rainbow before, were certainly of a Conſtitution very different from ours. And St. *Peter*, 2 *Epiſt. chap.* 3. *v.* 5. doth formally and expreſly tell us, that the

Old Heavens, or the Antediluvian Heavens had a different Conſtitution from ours, and particularly, that they were compos'd or conſtituted of Water; which Philoſophy of the Apoſtle's may be eaſily underſtood, if we attend to two things, firſt, that the Heavens he ſpeaks of were not the Starry Heavens, but the Aereal Heavens, or the Regions of our Air, where the Meteors are: Secondly, that there were no Meteors in thoſe Regions, or in thoſe Heavens, till the Deluge, but watery Meteors, and therefore, he ſays, they conſiſted of Water. And this ſhows the Foundation upon which that Deſcription is made, how coherently the Apoſtle argues, and anſwers the Objection there propos'd: How juſtly alſo he diſtinguiſheth the firſt Heavens from the preſent Heavens, or rather oppoſeth them one to another; becauſe as thoſe were conſtituted of Water, and watery Meteors only, ſo the preſent Heavens, he ſaith, have Treaſures of Fire, fiery Exhalations and Meteors, and a Diſpoſition to become the Executioners of the Divine Wrath and Decrees in the final Conflagration of the Earth.

This minds me alſo of the *Celeſtial Waters*, or the Waters above the Firmaments, which Scripture ſometimes mentions, and which, methinks, cannot be explain'd ſo fitly and emphatically upon any Suppoſition as this of ours. Thoſe who place them above the Starry Heavens, ſeem neither to underſtand Aſtronomy nor Philoſophy; and, on the other hand, if nothing be underſtood by them, but the

Clouds and the middle Region of the Air, as it is at preſent, methinks that was no ſuch eminent and remarkable thing as to deſerve a particular Commemoration by *Moſes* in his ſix Days Work; but if we underſtand them, not as they are now, but as they were then, the only Source of Waters, or the only Source of Waters upon that Earth, (for they had not one Drop of Water but what was Celeſtial;) this gives it a new Force and Emphaſis: Beſides, the whole middle Region having no other ſort of Meteors but them, that made it ſtill the greater Singularity, and more worthy Commemoration. As for the Rivers of *Paradiſe*, there is nothing ſaid concerning their Source, or their Iſſue, that is either contrary to this, or that is not agreeable to the general Account we have given of the Waters and Rivers of the firſt Earth. They are not ſaid to riſe from any Mountain, but from a great River, or a kind of a Lake in *Eden*, according to the Cuſtom of the Rivers of that Earth. And as for their End and Iſſue, *Moſes* doth not ſay, that they disburthen'd themſelves into this or that Sea, as they uſually do in the Deſcription of great Rivers, but rather implies that they ſpent themſelves in compaſſing and watering certain Countries, which falls in again very eaſily with our *Hypotheſis*. But I ſay this rather to comply with the Opinions of others, than of my *own* Judgment: For I think that Suggeſtion about the Supercœleſtial Waters made by *Moſes*, was not ſo much according to the ſtrict Nature and Speciality of

Cauſes, as for the Eaſe and Profit of the People, in their Belief and Acknowledgment of Providence for ſo great a Benefit, by what Cauſes ſoever it was brought to paſs.

But to return to the Rainbow, which we mentioned before, and is not to be paſt over ſo ſlightly. This we ſay is a Creature of the modern World, and was not ſeen nor known before the Flood. *Moſes* (*Gen.* 9. 12, 13.) plainly intimates as much, or rather directly affirms it; for he ſays, the Bow was ſet in the Clouds after the Deluge, as a Confirmation of the Promiſe or Covenant which God made with *Noah*, that he would drown the World no more with Water. And how could it be a Sign of this, or given as a Pledge and Confirmation of ſuch a Promiſe, if it was in the Clouds before, and with no Regard to this Promiſe? and ſtood there, it may be, when the World was going to be drown'd. This would have been but cold Comfort to *Noah*, to have had ſuch a Pledge of the Divine Veracity. You'll ſay, it may be, that it was not a Sign or Pledge that ſignified naturally, but voluntarily only, and by Divine Inſtitution: I am of Opinion, I confeſs, that it ſignify'd naturally, and by Connexion with the Effect, importing thus much, that the State of Nature was chang'd from what it was before, and ſo chang'd, that the Earth was no more in a Condition to periſh by Water. But however, let us grant that it ſignified only by Inſtitution; to make it ſignificant in this Senſe, it muſt be ſomething new, otherwiſe it could not ſignify any new thing, or be the Confirmation of a new Promiſe. If God Almighty had ſaid to *Noah*, I make a Promiſe to you, and to all living Creatures, that the World ſhall never be deſtroy'd by Water again, and for Confirmation of this, Behold, *I ſet the Sun in the Firmament*: Would this have been any ſtrengthening of *Noah's* Faith, or any Satisfaction to his Mind? Why, ſays *Noah*, the Sun was in the Firmament when the Deluge came, and was a Spectator of that ſad Tragedy; why may it not be ſo again? What Sign or Aſſurance is this againſt a ſecond Deluge? When God gives a Sign in the Heavens, or on the Earth, of any Prophecy or Promiſe to be fulfill'd, it muſt be by ſomething new, or by ſome Change wrought in Nature; whereby God doth teſtify to us, that he is able and willing to ſtand to his Promiſe. God ſays to *Ahaz*, Iſai. 7. *Ask a Sign of the Lord; ask it either in the Depth, or in the Height above*: And when *Ahaz* would ask no Sign, God gives one unask'd, *Behold, a Virgin ſhall conceive and bear a Son.* So when *Zachary*, *Luke* 1, was promis'd a Son, he asketh for a Sign, *Whereby ſhall I know this? for I am old, and my Wife well ſtricken in Years*; and the Sign given him was, that he became dumb, and continued ſo till the Promiſe was fulfill'd. Accordingly, when *Abraham* ask'd a Sign whereby he might be aſſured of God's Promiſe that his Seed ſhould inherit the Land of *Canaan*, *Gen.* 15. 8. 'Tis ſaid (*ver.* 17.) *When the Sun went down and it was dark, behold a ſmoaking Fur-*

nace and a burning Lamp paſſed betwixt the Pieces of the Beaſts that he had cut aſunder. So in other Inſtances of Signs given in external Nature, as the Sign given to King *Hezekiah*, *Iſai.* 38. for his Recovery, and to *Gideon* for his Victory; to confirm the Promiſe made to *Hezekiah*, *Judge* 7. the Shadow went back ten Degrees in *Ahaz* Dial. And for *Gideon*, *his Fleece was wet, and all the Ground about it dry*; and then to change the Trial, *it was dry, and all the Ground about it wet.* Theſe were all Signs very proper, ſignificant, and ſatisfactory, having ſomething ſurpriſing and extraordinary, yet theſe were Signs by Inſtitution only; and to be ſuch they muſt have ſomething new and ſtrange, as a Mark of the Hand of God, otherwiſe they can have no Force or Significancy. Accordingly, we ſee *Moſes* himſelf in another place ſpeaks this very Senſe, when in the Mutiny or Rebellion of *Corah* and *Dathan*, he ſpeaks thus to the People, *If theſe Men die the common Death of Men, then the Lord hath not ſent me. But if the Lord make a new thing, and the Earth open her Mouth and ſwallow them up*, &c. *then you ſhall underſtand that theſe Men have provoked the Lord*, Num. 26. 29, 30. So in the Caſe of *Noah*, if God *created a new Creature* (which are *Moſes*'s Words in the forecited Place) the Sign was effectual: But where every thing continues to be as it was before, and the Face of Nature, in all its Parts, the very ſame, it cannot ſignify any thing new, nor any new Intention in the Author of Nature; and conſequently,

ſequently, cannot be a Sign or Pledge, a Token or Aſſurance of the Accompliſhment of any new Covenant or Promiſe made by him.

This, methinks, is plain to common Senſe, and to every Man's Reaſon; but becauſe it is a Thing of Importance, to prove that there was no Rainbow before the Flood, and will confirm a conſiderable Part of this Theory, by diſcovering what the State of the Air was in the old World, give me leave to argue it a little further, and to remove ſome Prejudices that may keep others from aſſenting to clear Reaſon. I know 'tis uſually ſaid, that Signs, like Words, ſignify any Thing by Inſtitution, or may be apply'd to any Thing by the Will of the Impoſer; as hanging out a white Flag is calling for Mercy; a Buſh at the Door, a Sign of Wine to be ſold, and ſuch like. But theſe are Inſtances nothing to our Purpoſe, theſe are Signs of ſomething preſent, and that ſignify only by Uſe and repeated Experience; we are ſpeaking of Signs of another Nature, given in Confirmation of a Promiſe, or Threatning, or Prophecy, and given with Deſign to cure our Unbelief, or to excite and beget in us Faith in God, in the Prophet, or in the Promiſer; ſuch Signs, I ſay, when they are wrought in external Nature, muſt be ſome new Appearance, and muſt thereby induce us to believe the Effect, or more to believe it, than if there had been no Sign, but only the Affirmation of the Promiſer; for otherwiſe the pretended Sign is a mere Cypher and Superfluity. But a Thing that obtain'd before, and in the ſame Manner, (even when that came to paſs, which we are now promis'd ſhall not come to paſs again) ſignifies no more, than if there had been no Sign at all: It can neither ſignify another Courſe in Nature, nor another Purpoſe in God; and therefore is perfectly inſignificant. Some inſtance in the Sacraments, Jewiſh or Chriſtian, and make them Signs in ſuch a Senſe as the Rainbow is: But thoſe are rather Symbolical Repreſentations or Commemorations; and ſome of them Marks of Diſtinction and Conſecration of our ſelves to God in ſuch a Religion; they were alſo new, and very particular when firſt inſtituted; but all ſuch Inſtances fall ſhort, and do not reach the Caſe before us; we are ſpeaking of Signs confirmatory of a Promiſe; when there is ſomething affirm'd *de futuro*, and to give us a further Argument of the Certainty of it, and of the Power and Veracity of the Promiſer, a Sign is given: This, we ſay, muſt indiſpenſably be ſomething new, otherwiſe it cannot have the Nature, Virtue, and Influence of a Sign.

We have ſeen how incongruous it would be to admit that the Rainbow appear'd before the Deluge, and how dead a Sign that would make it, how forc'd, fruitleſs and ineffectual, as to the Promiſe it was to confirm: Let us now on the other hand ſuppoſe, that it firſt appear'd to the Inhabitants of the Earth after the Deluge, how proper, and how appoſite a Sign would this be for Providence to pitch upon, to confirm the Promiſe made to *Noah* and his Poſterity, *That* the World ſhould be no more deſtroy'd by Water? It had a ſecret Connexion with the Effect it ſelf, and was ſo far a natural Sign; but however, appearing firſt after the Deluge, and in a watery Cloud, there was, methinks, a great Eaſineſs and Propriety of Application for ſuch a purpoſe. And if we ſuppoſe, that while God Almighty was declaring his Promiſe to *Noah*, and the Sign of it, there appear'd at the ſame Time in the Clouds a fair Rainbow, that marvellous and beautiful Meteor, which *Noah* had never ſeen before; it could not but make a moſt lively Impreſſion upon him, quickning his Faith, and giving him Comfort and Aſſurance that God would be ſtedfaſt to his Promiſe.

Nor ought we to wonder that Interpreters have commonly gone the other Way, and ſuppos'd that the Rainbow was before the Flood; this, I ſay, was no Wonder in them, for they had no *Hypotheſis* that could anſwer to any other Interpretation: And in the Interpretation of the Texts of Scripture that concern natural Things, they commonly bring them down to their own Philoſophy and Notions: As we have a great Inſtance in that Diſcourſe of St. *Peter*'s, (2 *Epiſt.* c. 3. 5.) concerning the Deluge and the Antediluvian Heavens and Earth, which, for want of a Theory, they have been ſcarce able to make Senſe of; for they have forcedly apply'd to the preſent Earth, or the preſent Form of the Earth, what plainly reſpected another. A like Inſtance we have in the *Moſaical* Abyſs, or *Tehom-Rabba*, by whoſe Diſruption the Deluge was made; this they knew not well what to make of, and ſo have generally interpreted it of the Sea, or of our ſubterraneous Waters; without any Propriety either as to the Word, or as to the Senſe. A third Inſtance is this of the Rainbow, where their Philoſophy hath miſguided them again; for to give them their due, they do not alledge, nor pretend to alledge any Thing from the Text, that ſhould make them interpret thus, or think the Rainbow was before the Flood; but they pretend to go by certain Reaſons, as that the Clouds were before the Flood, therefore the Rainbow; and if the Rainbow was not before the Flood, then all Things were not made within the ſix Days Creation: To whom theſe Reaſons are convictive, they muſt be led into the ſame Belief with them, but not by any Thing in the Text, nor in the true Theory, at leaſt if ours be ſo; for by that you ſee that the Vapours were never condens'd into Drops, nor into Rain in the temperate and inhabited Climates of that Earth, and conſequently there could never be the Production or Appearance of this Bow in the Clouds. Thus much concerning the Rainbow.

To recollect our ſelves, and conclude this Chapter, and the whole Diſquiſition concerning the Waters of the primitive Earth; we ſeem to have ſo well ſatisfied the Difficulties propos'd in the Beginning of the Chapter, that they have rather given us an Advantage; a better Diſcovery, and ſuch a new Proſpect of that Earth, as makes it not only habitable, but more fit to be *Paradiſiacal.* The Pleaſantneſs of the Site of *Paradiſe* is made to conſiſt chiefly in two Things, its Waters, and its Trees, (*Gen.* 2. and *Chap.* 13. 10. *Ezek.* 31. 8.) and conſidering the Richneſs of that firſt Soil in the primitive Earth, it could not but abound in Trees, as it did in Rivers and Rivulets; and be wooded like a Grove, as it was water'd like a Garden, in the temperate Climates of it; ſo as it would not be, methinks, ſo difficult to find one *Paradiſe* there, as not to find more than one.

CHAP. VI.

A Recollection and Review of what hath been ſaid concerning the Primitive Earth; with a more full Survey of the State of the firſt World, Natural and Civil, and the Compariſon of it with the preſent World.

WE have now, in a good Meaſure, finiſh'd our Deſcription of the firſt and antediluvian Earth: And as Travellers, when they ſee ſtrange Countries, make it part of their Pleaſure and Improvement, to compare them with their own, to obſerve the Differences, and wherein they excel, or come ſhort of one another: So it will not be unpleaſant, nor unuſeful, it may be, having made a Diſcovery, not of a new Country, but of a new World, and travel'd it over in our Thoughts and Fancy, now to ſit down and compare it with our own: And 'twill be no hard Task, from the general Differences which we have taken Notice of already, to obſerve what leſſer would ariſe, and what the whole Face of Nature would be.

'Tis alſo one Fruit of travelling, that by ſeeing Variety of Places, and People, of Humours, Faſhions, and Forms of Living, it frees us, by degrees, from that Pedantry and Littleneſs of Spirit, whereby we are apt to cenſure every thing for abſurd and ridiculous, that is not according to our own Way, and the Mode of our own Country: But if, inſtead of croſſing the Seas, we could waft our ſelves over to our neighbouring Planets, we ſhould meet with ſuch Varieties there, both in Nature and Mankind, as would very much enlarge our Thoughts and Souls, and help to cure thoſe Diſeaſes of little Minds, that make them troubleſome to others, as well as uneaſy to themſelves.

But ſeeing our heavy Bodies are not made for ſuch Voyages, the beſt and greateſt thing we can do in this kind, is to make a Survey and Reflection upon the antediluvian Earth, which in ſome Senſe was another World from this, and, it may be, as different as ſome two Planets are from one another. We have declar'd already the general Grounds upon which we muſt proceed, and muſt now trace the Conſequences of them, and drive them down into Particulars, which will ſhew us in moſt things, wherein that Earth, or that World, differ'd from the preſent. The Form of that Earth, and its Situation to the Sun, were two of its moſt fundamental Differences from ours: As to the Form of it, 'twas all one ſmooth Continent, one continued Surface of Earth, without any Sea, any Mountains, or Rocks; any Holes, Dens or Caverns: And the Situation of it to the Sun was ſuch as made a perpetual Æquinox. Theſe two join'd together, lay the Foundation of a new Aſtronomy, Meteorology, Hydrography and Geography; ſuch as were proper and peculiar to that World. The Earth by this Means having its Axis parallel to the Axis of the Ecliptick, the Heavens would appear in another Poſture; and their diurnal Motion, which is imputed to the *Primum Mobile*, and ſuppos'd to be upon the Poles of the Æquator, would then be upon the ſame Poles with the ſecond and periodical Motions of the Orbs and Planets, namely, upon the Poles of the Ecliptick, by which Means the *Phænomena* of the Heavens would be more ſimple and regular, and much of that Entangledneſs and Perplexity, which we find now in Aſtronomy, would be taken away. Whether the Sun and Moon would ſuffer any Eclipſes then, cannot well be determin'd, unleſs one knew what the Courſe of the Moon was at that time, or whether ſhe was then come into our Neighbourhood: Her Preſence ſeems to have been leſs needful when there were no long Winter Nights, nor the great Pool of the Sea to move or govern.

As for the Regions of the Air and the Meteors, we have in the preceding Chapter ſet down what the State of them would be, and in how much a better Order, and more peaceable, that Kingdom was, till the Earth was broken and diſplac'd, and the Courſe of Nature chang'd: Nothing violent, nothing frightful, nothing troubleſome or incommodious to Mankind, came from above, but the Countenance of the Heavens was always ſmooth and ſerene. I have often thought it a very deſirable Piece of Power, if a Man could but command a fair Day, when he had occaſion for it, for himſelf, or for his Friends; 'tis more than the greateſt Prince or Potentate upon Earth can do; yet they never wanted one in that World, nor ever ſaw a foul one. Beſides, they had conſtant Breezes from the Motion of the Earth, and the Courſe of the Vapours, which cool'd the open Plains, and made the Weather temperate, as well as fair. But we have ſpoken enough in other Places upon this Subject of the Air and the Heavens, let us now deſcend to the Earth.

The Earth was divided into two Hemiſpheres, ſeparated by the Torrid Zone, which at that time was uninhabitable, and utterly unpaſſable; ſo as the two Hemiſpheres made two diſtinct Worlds, which, ſo far as we can judge, had no manner of Commerce or Communication one with another. The Southern Hemiſphere the Ancients call'd *Antichthon, the Oppoſite Earth*, or the *Other World*. And this Name and Notion remain'd long after the Reaſon of it had ceas'd. Juſt as the Torrid Zone was generally accounted uninhabitable by the Ancients, even in their Time, becauſe it really had been ſo once, and the Tradition remain'd uncorrected, when the Cauſes were taken away; namely, when the Earth had chang'd its Poſture to the Sun after the Deluge.

This may be look'd upon as the firſt Diviſion of that primæval Earth, into two Hemiſpheres, naturally ſever'd and diſunited: But it was alſo divided into five Zones, two Frigid, two Temperate, and the Torrid betwixt them. And this Diſtinction of the Globe into five Zones, I think, did properly belong to that original Earth, and primitive Geography, and improperly, and by Tranſlation only, to the preſent. For all the Zones of our Earth are habitable, and their Diſtinctions are in a manner but imaginary, not fix'd by Nature; whereas in that Earth where the Rivers fail'd, and the Regions became uninhabitable, by reaſon of Drineſs and Heat, there begun the Torrid Zone; and where the Regions became uninhabitable by reaſon of Cold and Moiſture, there begun the Frigid Zone; and theſe being determin'd they became Bounds on either ſide to the Temperate. But all this was alter'd when the Poſture of the Earth was chang'd; and chang'd for that very purpoſe, as ſome of the Ancients have ſaid, *That the uninhabitable Parts of the Earth might become habitable.* Yet though there was ſo much of the firſt Earth uninhabitable, there remain'd as much to be inhabited as we have now; for the Sea, ſince the Breaking up of the Abyſs, hath taken away half of the Earth from us, a great part whereof was to them good Land. Beſides, we are not to ſupppoſe, that the Torrid Zone was of that Extent we make it now, twenty three Degrees and more on either ſide of the Æquator: Theſe Bounds are ſet only by the Tropicks, and the Tropicks by the Obliquity of the Courſe of the Sun, or of the Poſture of the Earth, which was not in that World. Where the Rivers ſtop'd, there the Torrid Zone would begin, but the Sun was directly perpendicular to no part of it but the middle.

How the Rivers flow'd in the firſt Earth we have before explain'd ſufficiently, and what Parts the Rivers did not reach, were turn'd into Sands and Deſarts by the Heat of the Sun; for I cannot eaſily imagine, that the ſandy Deſarts of the Earth were made ſo at firſt, immediately and from the beginning of the World; from what Cauſes ſhould that be, and to what purpoſe in that Age? But in thoſe Tracks of the Earth that were not refreſh'd with Rivers and Moiſture, which cement the Parts, the Ground would moulder and crumble into little Pieces, and then thoſe Pieces by the Heat of the Sun were bak'd into Stone. And this would come to paſs chiefly in the hot and ſcorch'd Regions of the Earth, though it might happen ſometimes where there was not that Extremity of Heat, if by any Chance a Place wanted Rivers and Water to keep the Earth in due Temper; but thoſe Sands would not be ſo early or ancient as the other. As for greater looſe Stones, and rough Pebbles, there were none in that Earth ; *Deucalion* and *Pyrrha*, when the Deluge was over, found new made Stones to caſt behind their Backs; the Bones of their Mother-Earth, which then were broken in Pieces, in that great Ruine.

As for Plants and Trees, we cannot imagine but that they muſt needs abound in the Primitive Earth, ſeeing it was ſo well water'd, and had a Soil ſo fruitful; a new unlabour'd Soil, repleniſh'd with the Seeds of all Vegetables; and a warm Sun that would call upon Nature early for her Firſt-fruits, to be offer'd up at the beginning of her Courſe. Nature had a wild Luxuriancy at firſt, which humane Induſtry by degrees gave Form and Order to: The Waters flow'd with a conſtant and gentle Current, and were eaſily led which way the Inhabitants had a Mind, for their Uſe, or for their Pleaſure ; and ſhady Trees, which grow beſt in moiſt and warm Countries, grac'd the Banks of their Rivers or Canals. But that which was the Beauty and Crown of all, was their perpetual Spring, the Fields always green, the Flowers always freſh, and the Trees always cover'd with Leaves and Fruit: But we have occaſionally ſpoken of theſe things in ſeveral Places, and may do again hereafter, and therefore need not enlarge upon them here.

As for Subterraneous Things, Metals and Minerals, I believe they had none in the firſt Earth ; and the happier they; no Gold, nor

Silver, nor coarſer Metals. The Uſe of theſe is either imaginary, or in ſuch Works, as, by the Conſtitution of their World, they had little Occaſion for. And Minerals are either for Medicine, which they had no need of further than Herbs; or for Materials to certain Arts, which were not then in uſe, or were ſupplied by other ways. Theſe ſubterraneous Things, Metals and metallick Minerals, are factitious, not original Bodies, coæval with the Earth; but are made in Proceſs of Time, after long Preparations and Concoctions, by the Action of the Sun within the Bowels of the Earth. And if the *Stamina* or Principles of them riſe from the lower Regions that lie under the Abyſs, as I am apt to think they do, it doth not ſeem probable that they could be drawn thro' ſuch a Maſs of Waters, or that the Heat of the Sun could on a ſudden penetrate ſo deep, and be able to looſen them, and raiſe them into the exterior Earth. And as the firſt Age of the World was call'd *Golden*, though it knew not what Gold was; ſo the following Ages had their Names from ſeveral Metals, which lay then aſleep in the dark and deep Womb of Nature, and ſaw not the Sun till many Years and Ages afterwards.

Having run through the ſeveral Regions of Nature, from Top to Bottom, from the Heavens to the lower Parts of the Earth, and made ſome Obſervations upon their Order in the antediluvian World; let us now look upon Man and other living Creatures, that make the ſuperior and animate Part of Nature. We have obſerv'd, and ſufficiently ſpoken to that Difference betwixt the Men of the old World, and thoſe of the preſent, in Point of Longævity, and given the Reaſons of it; but we muſt not imagine that this long Life was peculiar to Man, all other Animals had their Share of it, and were in their Proportion longer-liv'd than they are now. Nay, not only Animals, but alſo Vegetables; and the Forms of all living Things were far more permanent: The Trees of the Field and of the Foreſt, in all Probability, out-laſted the Lives of Men; and I do not know but the firſt Groves of Pines and Cedars that grew out of the Earth, or that were planted in the Garden of God, might be ſtanding when the Deluge came, (*Ezek.* 31. 8.) and ſee, from firſt to laſt, the entire Courſe and Period of a World.

We might add here, with St. *Auſtin*, (*Civ. Dei*, *lib.* 15. *c.* 9.) another Obſervation, both concerning Men and other living Creatures in the firſt World, that they were greater as well as longer-liv'd, than they are at preſent. This ſeems to be a very reaſonable Conjecture; for the State of every Thing that hath Life is divided into the Time of its Growth, its Conſiſtency, and its Decay; and when the whole Duration is longer, every one of theſe Parts, tho' not always in like Proportions, will be longer. We muſt ſuppoſe then, that the Growth both in Men and other Animals laſted longer in that World than it doth now, and conſequently carried their Bodies both to a greater Height and Bulk. And in like Manner, their Trees would be both taller, and every Way bigger than ours; neither were they in any Danger there to be blown down by Winds and Storms, or ſtruck with Thunder, tho' they had been as high as the *Ægyptian* Pyramids; and whatſoever their Height was, if they had Roots and Trunks proportionable, and were ſtreight and well pois'd, they would ſtand firm, and with a greater Majeſty. *The Fowls of Heaven making their Neſts in their Boughs, and under their Shadow the Beaſts of the Field bringing forth their Young.* When Things are fairly poſſible in their Cauſes, and poſſible in ſeveral Degrees, higher or lower, 'tis Weakneſs of Spirit in us, to think there is nothing in Nature, but in that one Way, or in that one Degree, that we are us'd to. And whoſoever believes thoſe Accounts given us, both by the Ancients (*Plin. l.* 7. *c.* 2. *Strab. l.* 17.) and Moderns, (*Hort. Malabar. vol.* 3.) of the *Indian* Trees, will not think it ſtrange that thoſe of the firſt Earth ſhould much exceed any that we now ſee in this World. That allegorical Deſcription of the Glory of *Aſſyria* in *Ezekiel*, *Chap.* 31. by Alluſion to Trees, and particularly to the Trees of *Paradiſe*, was chiefly for the Greatneſs and Statelineſs of them; and there is all Fairneſs of Reaſon to believe, that in that firſt Earth, both the Birds of the Air, and the Beaſts of the Field, and the Trees and their Fruit, were all in their ſeveral Kinds more large and goodly than Nature produces any now.

So much in ſhort concerning the natural World, inanimate or animate; we ſhould now take a Proſpect of the moral World of that time, or of the civil and artificial World; what the Order and Oeconomy of theſe was, what the Manner of Living, and how the Scenes of humane Life were different from ours at preſent. The Ancients, eſpecially the Poets, in their Deſcription of the golden Age, exhibit to us an Order of Things, and a Form of Life, very remote from any Thing we ſee in our Days; but they are not to be truſted in all Particulars; many times they exaggerate Matters on purpoſe, that they may ſeem more ſtrange, or more great, and by that Means move and pleaſe us more. A *Moral* or *Philoſophick Hiſtory* of the World, well writ, would certainly be a very uſeful Work, to obſerve and relate how the Scenes of humane Life have chang'd in ſeveral Ages, the Modes and Forms of Living, in what Simplicity Men begun at firſt, and by what Degrees they came out of that Way, by Luxury, Ambition, Improvement, or Changes in Nature; then what new Forms and Modifications were ſuperadded by the Invention of Arts, what by Religion, what by Superſtition. This would be a View of Things more inſtructive, and more ſatisfactory, than to know what Kings reign'd in ſuch an Age, and what Battles were fought; which common Hiſtory teacheth, and teacheth little more. Such Affairs are but the little Under-plots in the Tragi-comedy of the World; the main Deſign is of another Nature, and of far greater Extent and Conſequence. But to return to the Subject.

As the animate World depends upon the inanimate, ſo the civil World depends upon them both, and takes its Meaſures from them; Nature is the Foundation ſtill, and the Affairs of Mankind are a Superſtructure that will be always proportion'd to it. Therefore we muſt look back upon the Model or Picture of their natural World, which we have drawn before, to make our Conjectures or Judgment of the civil and artificial, that were to accompany it. We obſerv'd from their perpetual Æquinox, and the Smoothneſs of the Earth, that the Air would be always calm, and the Heavens fair, no cold or violent Winds, Rains, or Storms, no Extremity of Weather in any kind, and therefore they would need little Protection from the Injuries of the Air in that State; whereas now one great Part of the Affairs of Life is to preſerve our ſelves from thoſe Inconveniencies, by building and cloathing. How many Hands, and how many Trades are employ'd about theſe two Things? which then were in a manner needleſs, or at leaſt in ſuch Plainneſs and Simplicity, that every Man might be his own Workman. Tents and Bowers would keep them from all Incommodities of the Air and Weather, better than Stone Walls and ſtrong Roofs defend us now; and Men are apt to take the eaſieſt Ways of Living, till Neceſſity or Vice put them upon others that are more laborious, and more artificial. We alſo obſerv'd and prov'd, that they had no Sea in the primitive and antediluvian World, which makes a vaſt Difference 'twixt us and them: This takes up half of our Globe, and a good Part of Mankind is buſied with Sea-affairs and Navigation. They had little need of Merchandizing then, Nature ſupply'd them at Home with all Neceſſaries, which were few, and they were not ſo greedy of Superfluities as we are. We may add to theſe what concern'd their Food and Diet; Antiquity doth generally ſuppoſe that Men were not carnivorous in thoſe Ages of the World, or did not feed upon Fleſh, but only upon Fruit and Herbs. And this ſeems to be plainly confirm'd by Scripture; for after the Deluge God Almighty gives *Noah* and his Poſterity a Licence to eat Fleſh, (*Gen.* 9. 2, 3.) *Every moving thing that liveth ſhall be Meat for you.* Whereas before, in the new-made Earth, God had preſcrib'd them Herbs and Fruit for their Diet, (*Gen.* 1. 29.) *Behold, I have given you every Herb bearing Seed, which is upon the Face of all the Earth; and every Tree, in the which is the Fruit of a Tree yielding Seed, to you it ſhall be for Meat.* And of this natural Diet they would be provided to their Hands, without further Preparation, as the Birds and the Beaſts are.

Upon theſe general Grounds we may infer and conclude, that the civil World then, as well as the natural, had a very different Face and Aſpect from what it hath now; for of theſe Heads, Food and Cloathing, Building and Traffick, with that Train of Arts, Trades and Manufactures that attend them, the civil Order of Things is in a great Meaſure conſtituted and compounded: Theſe make the Buſineſs of Life, the ſeveral Occupations of Men, the Noiſe and Hurry of the World; theſe fill our Cities, and our Fairs, and our Havens and Ports; yet all theſe fine Things are but the Effects of Indigency and Neceſſitouſneſs, and were, for the moſt part, needleſs and unknown in that firſt State of Nature. The Ancients have told us the ſame Things in Effect; but telling us them without their Grounds, which they themſelves did not know, they lookt like poetical Stories, and pleaſant Fictions, and with moſt Men paſt for no better. We have ſhewn them in another Light, with their Reaſons and Cauſes, deduc'd from the State of the natural World, which is the Baſis upon which they ſtand; and this doth not only give them a juſt and full Credibility, but alſo lays a Foundation for After-thoughts, and further Deductions, when they meet with Minds diſpos'd to purſue Speculations of this Nature.

As for Laws, Government, natural Religion, Military and Judicial Affairs, with all their Equipage, which make an higher Order of Things in the civil and moral World, to calculate theſe upon the Grounds given, would be more difficult, and more uncertain; neither do they at all belong to the preſent Theory. But from what we have already obſerv'd, we may be able to make a better Judgment of thoſe traditional Accounts which the Ancients have left us concerning theſe Things, in the early Ages of the World, and the primitive State of Nature. No doubt in theſe, as in all other Particulars, there was a great Eaſineſs and Simplicity in Compariſon of what is now; we are in a more pompous, forc'd, and artificial Method, which partly the Change of Nature, and partly the Vices and Vanities of Men have introduc'd and eſtabliſht. But theſe things, with many more, ought to be the Subject of a *Philoſophick Hiſtory* of the World, which we mention'd before.

This is a ſhort and general Scheme of the primæval World, compar'd with the modern; yet theſe Things did not equally run thro' all the Parts and Ages of it; there was a Declenſion and Degeneracy, both natural and moral, by Degrees, and eſpecially towards the latter End; but the principal Form of Nature remaining till the Deluge and the Diſſolution of that Heavens and Earth, till then alſo this civil Frame of Things would ſtand in a great Meaſure. And tho' ſuch a State of Nature, and of Mankind, when 'tis propos'd crudely, and without its Grounds, appear fabulous or imaginary, yet 'tis really in it ſelf a State, not only poſſible, but more eaſy and natural, than what the World is in at preſent. And if one of the old antediluvian Patriarchs ſhould riſe from the Dead, he would be more ſurpriz'd to ſee our World in that Poſture it is, than we can be by the Story and Deſcription of his. As an *Indian* hath more Reaſon to wonder at the *European* Modes, than we have to wonder at their plain Manner of Living. 'Tis we that have left the Track of Nature, that are wrought and ſcrew'd up into Artifices, that have diſguis'd our ſelves; and 'tis in our World that the Scenes are chang'd, and become more ſtrange and fantaſtical.

I will conclude this Diſcourſe with an eaſy Remark, and without any particular Application of it. 'Tis a ſtrange Power that Cuſtom hath upon weak and little Spirits, whoſe Thoughts reach no further than their Senſes; and what they have ſeen and been us'd to, they make the Standard and Meaſure of Nature, of Reaſon, and of all *Decorum.* Neither are there any Sort of Men more poſitive and tenacious of their petty Opinions, than they are; nor more cenſorious, even to Bitterneſs and Malice. And 'tis generally ſo, that thoſe that have the leaſt Evidence for the Truth of their beloved Opinions, are moſt peeviſh and impatient in the Defence of them. This ſort of Men are the laſt that will be made wiſe Men, if ever they be; for they have the worſt of Diſeaſes that accompany Ignorance, and do not ſo much as know themſelves to be ſick.

CHAP. VII.

The Place of Paradiſe *cannot be determin'd from the Theory only, nor from Scripture only. What the Senſe of Antiquity was concerning it, both as to the Jews and Heathens, and eſpecially as to the Chriſtian Fathers. That they generally plac'd it out of this Continent, in the ſouthern Hemiſphere.*

WE have now prepar'd our Work for the laſt finiſhing Stroaks; deſcrib'd the firſt Earth, and compar'd it with the preſent; and not only the two Earths, but in a good Meaſure the whole State and Oeconomy of thoſe two Worlds. It remains only to determine the Place of *Paradiſe* in that primæval Earth; I ſay, in that primæval Earth; for we have driven the Point ſo far already, that the Seat of it could not be in the preſent Earth, whoſe Form, Site, and Air, are ſo diſpos'd, as could not conſiſt with the firſt and moſt indiſpenſible Properties of *Paradiſe*: And accordingly, we ſee with what ill Succeſs our modern Authors have rang'd over the Earth, to find a fit Spot of Ground to plant *Paradiſe* in; ſome would ſet it on the Top of an high Mountain, that it might have good Air and fair Weather, as being above the Clouds, and the middle Region; but then they were at a Loſs for Water, which made a great Part of the Pleaſure and Beauty of that Place. Others therefore would ſeat it in a Plain, or in a Ria River-Iſland, that they might have Water enough; but then it would be ſubject to the Injuries of the Air, and foul Weather at the Seaſons of the Year; from which, both Reaſon and all Authority have exempted *Paradiſe.* 'Tis like ſeeking a perfect Beauty in a mortal Body, there are ſo many Things requir'd to it, as to Complexion, Features, Proportions and Air, that they never meet all together in one Perſon; neither can all the Properties of a terreſtrial *Paradiſe* ever meet together in one Place, tho' never ſo well choſen, in this preſent Earth.

But in the primæval Earth, which we have deſcrib'd, 'tis eaſy to find a Seat that had all thoſe Beauties and Conveniencies. We have every where thro' the temperate Climates, a clear and conſtant Air, a fruitful Soil, pleaſant Waters, and all the general Characters of *Paradiſe*; ſo that the Trouble will be rather in that Competition, what Part or Region to pitch upon in particular. But to come as near it as we can, we muſt remember in the firſt Place, how that Earth was divided into two Hemiſpheres, diſtant and ſeparated from one another, not by an imaginary Line, but by a real Boundary that could not be paſt; ſo as the firſt Inquiry will be, in whether of theſe Hemiſpheres was the Seat of *Paradiſe.* To anſwer this only according to our Theory, I confeſs, I ſee no natural Reaſon or Occaſion to place it in one Hemiſphere more than in another; I ſee no Ground of Difference or Pre-eminence, that one had above the other; and I am apt to think, that depended rather upon the Will of God, and the Series of Providence that was to follow in this Earth, than upon any natural Incapacity in one of theſe two Regions more than in the other, for planting in it the Garden of God. Neither doth Scripture determine, with any Certainty, either Hemiſphere for the Place of it; for when 'tis ſaid to be in *Eden*, or to be the Garden of *Eden*, 'tis no more than the Garden of *Pleaſure* or *Delight*, as the Word ſignifies: And even the *Septuagint*, who render this Word *Eden*, as a proper Name twice, (*Gen.* 2. *ver.* 8. *&* 10.) do in the ſame Story render it twice as a common Name, ſignifying τρυφὴ, *Pleaſure*, (*Chap.* 2. 15. and *Chap.* 3. 24.) and ſo they do accordingly render it in *Ezekiel*, (*Chap.* 31. 9. 16, 18.) where this Garden of *Eden* is ſpoken of again. Some have thought that the Word *Mekiddim*, (*Gen.* 2. 8.) was to be render'd *in the Eaſt*, or *Eaſtward*, as we read it, and therefore determin'd the Site of *Paradiſe*; but 'tis only the *Septuagint* tranſlate it ſo; all the other *Greek* Verſions, and St. *Jerome*, the *Vulgate*, the *Chaldee* Paraphraſe, and the *Syriack* render it *from the Beginning*, or *in the Beginning*, or to that Effect. And we that do not believe the *Septuagint* to have been infallible, or inſpir'd, have no Reaſon to prefer their ſingle Authority above all the reſt. Some alſo think the Place of *Paradiſe* may be determin'd by the four Rivers that are named as belonging to it, and the Countries they ran thro'; but the Names of thoſe Rivers are to me uncertain, and two of them altogether unintelligible. Where are there four Rivers in our Continent that come from one Head, as theſe are ſaid to have done, either at the Entrance or Iſſue of the Garden? 'Tis true, if you admit our *Hypotheſis*, concerning the Fraction and Diſruption of the Earth at the Deluge, then we cannot expect to find Rivers now as they were before; the general Source is chang'd, and their Channels are all broke up; but if you do not admit ſuch a Diſſolution of the Earth, but ſuppoſe the Deluge to have been only like a ſtanding Pool, after it had once cover'd the Surface of the Earth, I do not ſee why it ſhould make any great Havock or Confuſion in it; and they that go that Way, are therefore the more oblig'd to ſhow us ſtill the Rivers of *Paradiſe*. Several of the Ancients, as we ſhall ſhow hereafter, ſuppos'd theſe four Rivers to have their Heads in the other Hemiſphere; and if ſo, the Seat of *Paradiſe* might be there too. But let them firſt agree among themſelves concerning theſe Rivers, and the Countries they ran thro', and we will undertake to ſhow that there cannot be any ſuch in this Continent.

Seeing then neither the Theory doth determine, nor Scripture, where the Place of *Paradiſe* was, nor in whether Hemiſphere, we muſt appeal to Antiquity, or the Opinions of the Ancients; for I know no other Guide but one of theſe three, Scripture, Reaſon, and ancient Tradition; and where the two former are ſilent, it ſeems very reaſonable to conſult the third. And that our Inquiries may be comprehenſive enough, we will conſider what the *Jews*, what the *Heathens*, and what the *Chriſtian* Fathers have ſaid or determin'd concerning the Seat of *Paradiſe*. The *Jews* and *Hebrew* Doctors place it in neither Hemiſphere, but betwixt both, under the Æquinoctial, as you may ſee plainly in *Abravanel*, *Manaſſes*, *Ben-Iſrael*, *Maimonides*, *Aben Ezra*, and others. But the Reaſon why they carried it no further than the Line, is becauſe they ſuppos'd it certain, as *Eben Ezra* tells us, that the Days and Nights were always equal in *Paradiſe*, and they did not know how that could be, unleſs it ſtood under the Æquinoctial. But we have ſhown another Method, wherein that perpetual Æquinox came to paſs, and how it was common to all the Parts and Climates of that Earth, which if they had been aware of, and that the Torrid Zone at that time was utterly uninhabitable, having remov'd their *Paradiſe* thus far from Home, they would probably have remov'd it a little further into the temperate Climates of the other Hemiſphere.

The ancient Heathens, Poets and Philoſophers, had the Notion of *Paradiſe*, or rather of ſeveral *Paradiſes* in the Earth; and 'tis remarkable, that they plac'd them generally, if not all of them, out of this Continent; in the Ocean, or beyond it, or in another Orb or Hemiſphere. The Garden of the *Heſperides*, the fortunate *Iſlands*, the *Elyſian Fields*, *Ogygia* and *Toprabane*, as it is deſcrib'd by *Diodorus Siculus*, with others ſuch like; which as they were all characteriz'd like ſo many *Paradiſes*, ſo they were all ſeated out of our Continent by their Geography and Deſcriptions of them.

Thus far Antiquity ſeems to incline to the other Hemiſphere, or to ſome Place beyond the Bounds of our Continent for the Seat of *Paradiſe* : But that which we are moſt to depend upon in this Affair, is Chriſtian Antiquity, the Judgment and Tradition of the Fathers upon this Argument. And we may ſafely ſay in the firſt Place, negatively, that none of the Chriſtian Fathers, *Latin* or *Greek*, ever plac'd *Paradiſe* in *Meſopotamia* ; that is a Conceit and Invention of ſome modern Authors, which hath been much encouraged of late, becauſe it gave Men Eaſe and Reſt as to further Inquiries, in an Argument they could not well manage. Secondly, We may affirm, that none of the Chriſtian Fathers have plac'd *Paradiſe* in any determinate Region of our Continent, *Aſia*, *Africk*, or *Europe*. I have read of one or two Authors, I think, that fancied *Paradiſe* to have been at *Jeruſalem* ; but 'twas a mere Fancy, that no body regarded or purſu'd. The Controverſy amongſt the Fathers concerning *Paradiſe* was quite another Thing from what it is now of late : They diſputed and controverted, whether *Paradiſe* was corporeal or intellectual only, and allegorical ; this was the grand Point amongſt them. Then of thoſe that thought it corporeal, ſome plac'd it high in the Air, ſome inacceſſible, by Deſarts or Mountains, and many beyond the

Ocean, or in another World; and in theſe chiefly conſiſted the Differences and Diverſity of Opinions amongſt them; nor do we find that they nam'd any particular Place or Country in the known Parts of the Earth for the Seat of *Paradiſe*, or that one conteſted for one Spot of Ground, and another for another, which is the vain Temerity of modern Authors; as if they could tell to an Acre of Land where *Paradiſe* ſtood, or could ſet their Foot upon the Centre of the Garden. Theſe have corrupted and miſrepreſented the Notion of our *Paradiſe*, juſt as ſome modern Poets have the Notion of the *Elyſian Fields*, which *Homer* and the Ancients plac'd remote on the Extremities of the Earth, and theſe would make a little green Meadow in *Campania Felix* to be the fam'd *Elyſium*.

Thus much concerning the Fathers, negatively; but to diſcover as far as we can, what their poſitive Aſſertions were in this Argument, we may obſerve, that tho' their Opinions be differently expreſt, they generally concenter in this, that the *Southern Hemiſphere* was the Seat of *Paradiſe*. This, I ſay, ſeems manifeſtly to be the Senſe of Chriſtian Antiquity and Tradition, ſo far as there is any Thing definitive in the Remains we have upon that Subject. Some of the Fathers did not believe *Paradiſe* to be corporeal and local, and thoſe are to be laid aſide in the firſt Place, as to this Point; others that thought it local, did not determine any Thing (as moſt of them indeed did not) concerning the particular Place of it; but the reſt that did, tho' they have expreſt themſelves in various Ways, and under various Forms; yet, upon a due Interpretation, they all meet in one common and general Concluſion, that *Paradiſe* was ſeated beyond the Æquinoctial, or in the other Hemiſphere.

And to underſtand this aright, we muſt reflect, in the firſt Place, upon the Form of the primæval Earth, and of the two Hemiſpheres of which it conſiſted, altogether incommunicable one with another, by reaſon of the Torrid Zone betwixt them; ſo as thoſe two Hemiſpheres were then as two diſtinct Worlds, or diſtinct Earths, that had no Commerce with one another. And this Notion or Tradition we find among Heathen Authors, as well as Chriſtian; this oppoſite Earth being call'd by them *Antichthon*, and its Inhabitants *Antichthones*: For thoſe Words comprehend both the *Antipodes* and *Antœci*, or all beyond the Line, as is manifeſt from their beſt Authors, as *Achilles Tatius*, and *Cæſar Germanicus* upon *Aratus*, *Probus Grammaticus*, *Cenſorinus*, *Pomponius Mela*, and *Pliny*. And theſe were call'd another World, and lookt upon as another Stock and Race of Mankind, as appears from *Cicero* and *Macrobius*, (*Somn. Scip.*) But as the latter Part was their Miſtake, ſo the former is acknowledg'd by Chriſtian Authors, as well as others; and particularly St. *Clement*, in his Epiſtle to the *Corinthians*, mentions a *World*, or *Worlds beyond the Ocean, ſubject to divine Providence, and the great Lord of Nature, as well as ours.* This Paſſage of St. *Clement* is alſo cited by St. *Jerome*, in his Commentary upon *Epheſ.* 2. 2. and by *Origen Periarchon*,

archon, (*Lib.* 2. *c.* 3.) where the Inhabitants of that other World are call'd *Antichthones*.

I make this Remark in the firſt Place, that we may underſtand the true Senſe and Importance of thoſe Phraſes and Expreſſions amongſt the Ancients, when they ſay *Paradiſe* was in *another World*. Which are not to be ſo underſtood, as if they thought *Paradiſe* was in the Moon, or in *Jupiter*, or hung above like a Cloud or a Meteor, they were not ſo extravagant; but that *Paradiſe* was in another Hemiſphere, which was call'd *Antichthon*, another *Earth*, or another *World* from ours; and juſtly reputed ſo, becauſe of an Impoſſibility of Commerce or Intercourſe betwixt their reſpective Inhabitants. And this Remark being premis'd, we will now diſtribute the Chriſtian Authors and Fathers, that have deliver'd their Opinion concerning the Place of *Paradiſe*, into three or four Ranks or Orders; and tho' they expreſs themſelves differently, you will ſee, when duly examin'd and expounded, they all conſpire and concur in the forementioned Concluſion, *That* the Seat of *Paradiſe* was in the other Hemiſphere.

In the firſt Rank then we will place and reckon thoſe that have ſet *Paradiſe* in another *World*, or in another *Earth*; ſeeing, according to the foregoing Explication, that is the ſame thing as to affirm it ſeated beyond the Torrid Zone in the other Hemiſphere. In this Number are *Ephrem Syrus*, *Moſes Bar Cepha*, *Tatianus*, and of later Date *Jacobus de Valentia*. To theſe are to be added again ſuch Authors as ſay, that *Adam*, when he was turn'd out of *Paradiſe*, was brought into *our Earth*, or into our Region of the Earth; for this is tantamount with the former; and this ſeems to be the Senſe of St. *Jerome* in ſeveral Places againſt *Jovinian*, as alſo of *Conſtantine*, in his *Oration* in *Euſebius*, and is poſitively aſſerted by *Sulpitius Severus*. And laſtly, Thoſe Authors that repreſent *Paradiſe* as remote from our World, and inacceſſible; ſo St. *Auſtin*, *Procopius Gazæus*, *Beda*, *Strabus Fuldenſis*, *Hiſtoria Scholiaſtica*, and others; theſe, I ſay, purſue the ſame Notion of Antiquity; for what is remote from our World, (that is, from our Continent, as we before explain'd it) is to be underſtood to be that *Antichthon*, (Οἰκȣμένη) or Anti-hemiſphere, which the Ancients oppos'd to ours.

Another Set of Authors, that interpret the *Flaming Sword* that guarded *Paradiſe* to be the *Torrid Zone*, do plainly intimate, that *Paradiſe* in their Opinion lay beyond the Torrid Zone, or in the Anti-hemiſphere; and thus *Tertullian* interprets the Flaming Sword, and in ſuch Words as fully confirm our Senſe: *Paradiſe*, he ſays, *by the Torrid Zone, as by a Wall of Fire, was ſever'd from the Communication and Knowledge of our World.* It lay then on the other Side of this Zone. And St. *Cyprian*, or the ancient Author that paſſeth under his Name, in his Comment upon *Geneſis*, expreſſeth himſelf to the ſame effect; ſo alſo St. *Auſtin* and *Iſidore Hiſpalenſis* are thought to interpret it: And *Aquinas*, who makes *Paradiſe* inacceſſible, gives this Reaſon for it, *Propter vehementiam æſtus in locis intermediis ex* *propinquitate Solis, & hoc ſignificatur per Flammeum Gladium: Becauſe of that vehement Heat in the Parts betwixt us and that, ariſing from the Nearneſs of the Sun, and this is ſignified by the Flaming Sword.* And this Interpretation of the *Flaming Sword* receives a remarkable Force and Emphaſis from our Theory and Deſcription of the primæval Earth, for there the Torrid Zone was as a Wall of Fire indeed, or a Region of Flame, which none could paſs or ſubſiſt in, no more than in a Furnace.

There is another Form of Expreſſion amongſt the Ancients concerning *Paradiſe*, which, if decyphered, is of the ſame Force and Signification with this we have already inſtanc'd in: They ſay ſometimes *Paradiſe* was *beyond the Ocean*, or that the Rivers of *Paradiſe* came from beyond the Ocean. This is of the ſame Import with the former Head, and points ſtill at the other Hemiſphere; for, as we noted before, ſome of them fixt their *Antichthon* and *Antichthones* beyond the Ocean; that is, ſince there was an Ocean; ſince the Form of the Earth was chang'd, and the Torrid Zone became habitable, and conſequently could not be a Boundary or Separation betwixt the two Worlds. Wherefore, as ſome run ſtill upon the old Diviſion by the Torrid Zone, others took the new Diviſion by the Ocean. Which Ocean they ſuppos'd to lie from Eaſt to Weſt betwixt the Tropicks; as may be ſeen in ancient Authors, *Geminus*, *Herodotus*, *Cicero de republica*, and *Clemens Romanus*, whom we cited before. St. *Auſtin* (*De Civ. Dei, lib.* 16. *c.* 9.) alſo ſpeaks upon the ſame Suppoſition, when he would confute the Doctrine of the *Antipodes*, or *Antichthones*; and *Macrobius*, I remember, makes it an Argument of Providence, that the Sun and the Planets, in what Part of their Courſe ſoever they are betwixt the two Tropicks, have ſtill the Ocean under them, that they may be cool'd and nouriſh'd by its Moiſture. They thought the Sea, like a Girdle, went round the Earth, and the temperate Zones on either Side were the habitable Regions, whereof this was called the *Oicoumene*, and the other *Antichthon*.

This being obſerv'd, 'tis not material whether their Notion was true or falſe, it ſhews us what their Meaning was, and what Part of the Earth they deſign'd, when they ſpoke of any Thing beyond the Ocean; namely, that they meant beyond the Line, in the other Hemiſphere, or in the *Antichthon*; and accordingly, when they ſay *Paradiſe*, or the Fountains of its Rivers were beyond the Ocean, they ſay the ſame Thing in other Terms with the reſt of thoſe Authors we have cited. In *Moſes Bar Cepha* above-mention'd, we find a Chapter upon this Subject, *Quomodo trajecerint Mortales inde ex Paradiſi terra in hanc terram. How Mankind paſt out of that Earth or Continent, where* Paradiſe *was, into that where we are.* Namely, how they paſt the Ocean, *that lay betwixt them*, as the Anſwer there given explains it. And ſo *Ephrem Syrus* is cited often in that Treatiſe, placing *Paradiſe* beyond the Ocean. The *Eſſenes* alſo, who were the moſt Philoſophick Sect of the *Jews*, plac'd *Paradiſe*, according to *Joſephus*, beyond the

Ocean, under a perfect Temperature of Air. And that Paſſage in *Euſebius*, in the Oration of *Conſtantine*, being corrected and reſtor'd to the true reading, repreſents *Paradiſe*, in like manner, as in another Continent, from whence *Adam* was brought, after his Tranſgreſſion, into this. And laſtly, there are ſome Authors, whoſe Teſtimony and Authority may deſerve to be conſider'd, not for their own Antiquity, but becauſe they are profeſſedly Tranſcribers of Antiquity and Traditions; ſuch as *Strabus*, *Comeſtor*, and the like, who are known to give this Account or Report of *Paradiſe* from the Ancients, that it was *interpoſito Oceano ab Orbe noſtro vel à Zona noſtra habitabili ſecretus*; *ſeparated from our Orb or Hemiſphere by the Interpoſition of the Ocean.*

It is alſo obſervable, that many of the Ancients that took *Tigris*, *Euphrates*, *Nile* and *Ganges*, for the Rivers of *Paradiſe*, ſaid that thoſe Heads or Fountains of them, which we have in our Continent, are but their *Capita ſecunda*, their ſecond Sources, and that their firſt Sources were in another Orb where *Paradiſe* was; and thus *Hugo de Sancto Victore* ſays, *Sanctos communiter ſenſiſſe*, That the Holy Men of old were generally of that Opinion. To this Senſe alſo *Moſes Bar Cepha* often expreſſeth himſelf; as alſo *Epiphanius*, *Procopius Gazæus*, and *Severianus* in *Catena*. Which Notion amongſt the Ancients, concerning the Trajection or Paſſage of the paradiſiacal Rivers under Ground, or under Sea, from one Continent into another, is to me, I confeſs, unintelligible, either in the firſt or ſecond Earth; but however it diſcovers their Senſe and Opinion of the Seat of *Paradiſe*, that it was not to be ſought for in *Aſia* or in *Africk*, where thoſe Rivers riſe to us; but in ſome remoter Parts of the World, where they ſuppos'd their firſt Sources to be.

This is a ſhort Account of what the Chriſtian Fathers have left us concerning the Seat of *Paradiſe*; and the Truth is, 'tis but a ſhort and broken Account; yet 'tis no wonder it ſhould be ſo, if we conſider, as we noted before, that ſeveral of them did not believe *Paradiſe* to be local and corporeal; others that did believe it ſo, yet did not offer to determine the Place of it, but left that Matter wholly untouch'd and undecided; and the reſt that did ſpeak to that Point, did it commonly both in general Terms, and in Expreſſions that were diſguis'd, and needed Interpretation; but all theſe Differences and Obſcurities of Expreſſion, you ſee, when duly ſtated and expounded, may ſignify one and the ſame Thing, and terminate all in this common Concluſion, *That Paradiſe* was without our Continent, according to the general Opinion and Tradition of Antiquity. And I do not doubt but the Tradition would have been both more expreſs and more univerſal, if the Ancients had underſtood Geography better; for thoſe of the Ancients that did not admit or believe that there were *Antipodes* or *Antichthones*, as *Lactantius*, St. *Auſtin*, and ſome others; theſe could not join in the common Opinion about the Place of *Paradiſe*, becauſe they thought there was no Land, nor any Thing habitable ἔξω τῆς οἰκȣμένης, or beſide this Continent. And yet St. *Auſtin* was ſo cautious, that as he was bounded on the one Hand by his falſe *Idea* of the Earth; that he could not join with Antiquity as to the Place of *Paradiſe*; ſo on the other Hand he had that Reſpect for it, that he would not ſay any thing to the contrary; therefore being to give his Opinion, he ſays only, *Terreſtrem eſſe Paradiſum, & locum ejus ab hominum cognitione eſſe remotiſſimum: That it is ſomewhere upon the Earth; but the Place of it very remote from the Knowledge of Men.*

And as their Ignorance of the Globe of the Earth was one Reaſon why the Doctrine of *Paradiſe* was ſo broken and obſcure, ſo another Reaſon why it is much more ſo at preſent is, becauſe the chief ancient Books writ upon that Subject are loſt. *Ephrem Syrus*, who liv'd in the fourth Century, writ a Commentary *in Geneſin ſive de Ortu rerum*, concerning the Origin of the Earth; and by thoſe Remains that are cited from it, we have reaſon to believe that it contain'd many Things remarkable concerning the firſt Earth, and concerning *Paradiſe*. *Tertullian* alſo writ a Book *de Paradiſo*, which is wholly loſt; and we ſee to what Effect it would have been, by his making the Torrid Zone to be the *Flaming Sword*, and the Partition betwixt this Earth and *Paradiſe*; which two Earths he more than once diſtinguiſheth as very different from one another, (*Cont. Marc. lib.* 2. *c.* 2. *c.* 5.) The moſt ancient Author that I know upon this Subject, at leaſt of thoſe that writ of it literally, is *Moſes Bar Cepha*, a *Syrian* Biſhop, who liv'd about ſeven hundred Years ſince, and his Book is tranſlated into *Latin* by that learned and judicious Man *Andreas Maſius*. *Bar Cepha* writes upon the ſame Views of *Paradiſe* that we have here preſented, that it was beyond the Ocean, in another Track of Land, or another Continent from that which we inhabit: As appears from the very Titles of his eighth, tenth, and fourteenth Chapters. But we muſt allow him for his miſtaken Notions about the Form of the Earth; for he ſeems to have fancied the Earth plain, (not only as oppos'd to rough and mountainous, for ſo it was plain; but as oppos'd to ſpherical) and the Ocean to have divided it in two Parts, an interior, and an exterior, and in that exterior Part was *Paradiſe*. Such Allowances muſt often be made for geographical Miſtakes, in examining and underſtanding the Writings of the Ancients. The reſt of the *Syrian* Fathers, as well as *Ephrem* and *Bar Cepha*, incline to the ſame Doctrine of *Paradiſe*, and ſeem to have retain'd more of the ancient Notions concerning it, than the *Greek* and *Latin* Fathers have; and yet there is in all ſome Fragments of this Doctrine, and but Fragments in the beſt.

We might add in the laſt Place, that as the moſt ancient Treatiſes concerning *Paradiſe* are loſt, ſo alſo the ancient *Gloſſes* and *Catenæ* upon Scripture, where we might have found the

Traditions and Opinions of the Ancients upon this Subject, are many of them either loſt or unpubliſh'd; and upon this Conſideration we did not think it improper to cite ſome Authors of ſmall Antiquity, but ſuch as have tranſcrib'd ſeveral Things out of ancient Manuſcript-gloſſes into their Commentaries. They living however before Printing was invented, or Learning well reſtor'd, and before the Reformation. I add that alſo, *before the Reformation*, for ſince that Time the Proteſtant Authors having leſſen'd the Authority of Traditions, the pontificial Doctors content themſelves to inſiſt only upon ſuch as they thought were uſeful or neceſſary, leſt by multiplying others that were but Matter of Curioſity, they ſhould bring the firſt into Queſtion, and render the whole Doctrine of Traditions more dubious and exceptionable; and upon this Account, there are ſome Authors that writ an Age or two before the Reformation, that have with more Freedom told us the Tenets and Traditions of the Ancients in theſe Speculations, that are but collateral to Religion, than any have done ſince.

And I muſt confeſs, I am apt to think that what remains concerning the Doctrine of *Paradiſe*, and the primæval Earth, is in a good Meaſure traditional; for one may obſerve, that thoſe that treat upon theſe Subjects quote the true Opinions, and tell you ſome of the Ancients held ſo and ſo; as that *Paradiſe* was in another Earth, or higher than this Earth; that there were no Mountains before the Flood, nor any Rain, and ſuch like; yet they do not name thoſe ancient Authors that held theſe Opinions; which makes me apt to believe, either that they were convey'd by a traditional Communication from one to another, or that there were other Books extant upon thoſe Subjects, or other Gloſſes, than what are now known.

Finally, To conclude this Diſcourſe concerning the Seat of *Paradiſe*, we muſt mind you again upon what Baſis it ſtands. We declar'd freely, that we could not by our Theory alone determine the particular Place of it, only by that we are aſſur'd that it was in the primæval Earth, and not in the preſent; but in what Region, or in whether Hemiſphere of that Earth it was ſeated, we cannot define from Speculation only. 'Tis true, if we hold faſt to that Scripture-concluſion, That all Mankind roſe from one Head, and from one and the ſame Stock and Lineage, (which doth not ſeem to be according to the Sentiments of the Heathens) we muſt ſuppoſe they were born in one Hemiſphere, and after ſome Time tranſlated into the other, or a Colony of them: But this ſtill doth not determine in whether of the two they begun, and were firſt ſeated before their Tranſlation; and I am apt to think that depended rather, as we noted before, upon the divine Pleaſure, and the Train of Affairs that was to ſucceed, than upon natural Cauſes and Differences. Some of the Ancients, I know, made both the Soil and the Stars more noble in the ſouthern Hemiſphere, than in ours; but I do not ſee any Proof or Warrant for it;

wherefore, laying aſide all natural Topicks, we are willing, in this Particular, to refer our ſelves wholly to the Report and Majority of Votes among the Ancients; who yet do not ſeem to me to lay much Streſs upon the Notion of a particular and topical Paradiſe, and therefore uſe general and remote Expreſſions concerning it. And finding no Place for it in this Continent, they are willing to quit their Hands of it, by placing it in a Region ſomewhere far off, and inacceſſible. This, together with the old Tradition, that Paradiſe was in another Earth, ſeems to me to give an Account of moſt of their Opinions concerning the Seat of Paradiſe, and that they were generally very uncertain where to fix it.

CHAP. VIII.

The Uſes of this Theory for the Illuſtration of Antiquity; The ancient Chaos explain'd; The Inhabitability of the Torrid Zone; The Change of the Poles of the World; The Doctrine of the Mundane Egg; How America *was firſt peopled; How* Paradiſe *within the Circle of the* Moon.

WE have now diſpatch'd the Theory of the primæval Earth, and reviv'd a forgotten World. 'Tis pity the firſt and faireſt Works of Nature ſhould be loſt out of the Memory of Man, and that we ſhould ſo much dote upon the Ruines, as never to think upon the original Structure. As the modern Artiſts, from ſome broken Pieces of an ancient Statue, make out all the other Parts and Proportions; ſo from the broken and ſcatter'd Limbs of the firſt World we have ſhown you how to raiſe the whole Fabrick again; and renew the Proſpect of thoſe pleaſant Scenes that firſt ſaw the Light, and firſt entertain'd Man, when he came to act upon this new-erected Stage.

We have drawn this Theory chiefly to give an Account of the univerſal Deluge, and of *Paradiſe*; but as when one lights a Candle to look for one or two Things which they want, the Light will not confine it ſelf to thoſe two Objects, but ſhows all the other in the room; ſo, methinks, we have unexpectedly caſt a Light upon all Antiquity, in ſeeking after theſe two Things, or in retrieving the Notion and Doctrine of the primæval Earth, upon which they depended. For in ancient Learning there are many Diſcourſes, and many Concluſions deliver'd to us, that are ſo obſcure and confus'd, and ſo remote from the preſent State of Things, that one cannot well diſtinguiſh whether they are Fictions or Realities: And there is no Way to diſtinguiſh with Certainty, but by a clear Theory upon the ſame Subjects; which ſhowing us the Truth directly and independently upon them, ſhows us alſo by Reflection, how far they are true or falſe, and in what Senſe they are to be interpreted and underſtood. And the preſent Theory being of great extent, we ſhall find it ſerviceable in many Things, for the Illuſtration of ſuch dubious and obſcure Doctrines in Antiquity.

To begin with their ancient CHAOS, what a dark Story have they made of it, both their Philoſophers and Poets; and how fabulous in Appearance? 'Tis deliver'd as confuſedly as the Maſs it ſelf could be, and hath not been reduc'd to Order, nor indeed made intelligible by any. They tell us of *moral* Principles in the Chaos inſtead of *natural*, of *Strife*, and *Diſcord*, and *Diviſion* on the one hand, and *Love*, *Friendſhip*, and *Venus* on the other; and, after a long Conteſt, Love got the better of Diſcord, and united the diſagreeing Principles: This is one Part of their Story. Then they make the Forming of the World out of the Chaos a kind of *Genealogy* or Pedigree; *Chaos* was the common Parent of all, and from Chaos ſprung firſt *Night*, and *Tartarus*, or *Oceanus*; Night was a teeming Mother, and of her were born *Æther* and the *Earth*; The Earth conceiv'd by the Influences of Æther, and brought forth Man and all Animals.

This ſeems to be a poetical Fiction rather than Philoſophy; yet when 'tis ſet in a true Light, and compar'd with our Theory of the Chaos, 'twill appear a pretty regular Account, how the World was form'd at firſt, or how the Chaos divided it ſelf ſucceſſively into ſeveral Regions, riſing one after another, and propagated one from another, as Children and Poſterity from a common Parent. We ſhow'd in the firſt Book, *Chap.* 5. how the Chaos, from an uniform Maſs, wrought it ſelf into ſeveral Regions or Elements; the groſſeſt Part ſinking to the Center; upon this lay the Maſs of Water, and over the Water was a Region of dark, impure, caliginous Air; this impure caliginous Air is that which the Ancients call *Night*, and the Maſs of Water *Oceanus* or *Tartarus*; for thoſe two Terms with them are often of the like Force, *Tartarus* being *Oceanus* inclos'd and lock'd up: Thus we have the firſt Offſpring of the Chaos, or its firſt-born Twins, *Nox* and *Oceanus*. Now this turbid Air purifying it ſelf by Degrees, as the more ſubtle Parts flew upwards, and compos'd the Æther; ſo the earthy Parts that were mixt with it dropt down upon the Surface of the Water, or the liquid Maſs; and that Maſs on the other Hand ſending up its lighter and more oily Parts towards its Surface, theſe two incorporate there, and by their Mixture and Union compoſe a Body of Earth quite round the Maſs of Waters: And this was the firſt habitable Earth, which, as it was, you ſee, the Daughter of *Nox* and *Oceanus*, ſo it was the Mother of all other Things, and all living Creatures, which at the Beginning of the World ſprung out of its fruitful Womb.

This Doctrine of the Chaos, for the greater Pomp of the Buſineſs, the Ancients call'd their *Theogonia*, or the Genealogy of the Gods; for they gave their Gods, at leaſt their terreſtrial Gods, an Original and Beginning; and all the Elements and greater Portions of Nature they made Gods and Goddeſſes, or their Deities preſided over them in ſuch a Manner, that the Names were us'd promiſcuouſly for one another. We alſo mention'd before ſome moral Principles, which they plac'd in the Chaos, *Eris* and *Eros*; Strife, Diſcord, and Diſaffection, which prevail'd at firſt; and afterward *Love*, Kindneſs and Union got the upper Hand, and in ſpite of thoſe factious and dividing Principles gather'd together the ſeparated Elements, and united them into an habitable World. This is all eaſily underſtood, if we do but look upon the Schemes of the riſing World, as we have ſet them down in that fifth Chapter; for in the firſt Commotion of the Chaos, after an inteſtine Struggle of all the Parts, the Elements ſeparated from one another into ſo many diſtinct Bodies or Maſſes; and in this State and Poſture Things continu'd a good while, which the Ancients, after their poetick or moral Way, call'd the Reign of *Eris* or Contention, of Hatred, Slight and Diſaffection; and if Things had always continued in that Syſtem, we ſhould never have had an habitable World. But Love and good Nature conquer'd at length; *Venus* roſe out of the Sea, and receiv'd into her Boſom, and intangled into her Embraces the falling Æther, *viz.* the Parts of lighter Earth, which were mixt with the Air in that firſt Separation, and gave it the Name of *Night*: Theſe, I ſay, fell down upon the oily Parts of the Sea-maſs, which lay floating upon the Surface of it, and by that Union and Conjunction a new Body, and a new World was produc'd, which was the firſt habitable Earth. This is the Interpretation of their myſtical Philoſophy of the Chaos, and the Reſolution of it into plain natural Hiſtory: Which you may ſee more fully diſcuſs'd in the *Latin* Treatiſe, *Lib.* 2. *c.* 7.

In conſequence of this, we have already explain'd, in ſeveral Places, the *Golden Age* of the Ancients, and laid down ſuch Grounds as will enable us to diſcern what is real, and what poetical, in the Reports and Characters that Antiquity hath given of thoſe firſt Ages of the World. And if there be any Thing amongſt the Ancients that refers to another Earth, as *Plato*'s *Atlantis*, which he ſays, was abſorpt by an Earthquake, and an Inundation, as the primæval Earth was; or his *Æthereal* Earth mention'd in his *Phædo*, which he oppoſeth to this broken hollow Earth; makes it to have long-liv'd Inhabitants, and to be without Rains and Storms, as that firſt Earth was alſo; or the pendulous *Gardens* of *Alcinous*, or ſuch like; to which nothing anſwers in preſent Nature, by reflecting upon the State of the firſt Earth, we find an eaſy Explication of them. We have alſo explain'd what the *Antichthon* and *Antichthones* of the Ancients were, and what the true Ground of that Diſtinction was. But nothing ſeems more remarkable than the *Inhabitability of the Torrid Zone*, if we conſider what a general Fame and Belief it had amongſt the Ancients, and yet in the preſent Form of the Earth we find no ſuch Thing, nor any Foundation for it. I cannot believe that this was ſo univerſally receiv'd upon a ſlight Preſumption only, becauſe it lay under the Courſe of the Sun, if the Sun had then the ſame Latitude from the Æquator, in his Courſe and Motion, that he hath now, and made the ſame Variety of Seaſons; whereby even the hotteſt Parts of the Earth have a Winter, or ſomething equivalent to it. But if we apply this to the primæval Earth, whoſe Poſture was direct to the Sun, ſtanding always fixt in its Equinoctial, we ſhall eaſily believe that the Torrid Zone was then uninhabitable by Extremity of Heat, there being no Difference of Seaſons, nor any Change of Weather, the Sun hanging always over Head at the ſame Diſtance, and in the ſame Direction. Beſides this, the Deſcent of the Rivers in that firſt Earth was ſuch, that they could never reach the Equinoctial Parts, as we have ſhown before; by which Means, and the want of Rain, that Region muſt neceſſarily be turn'd into a dry Deſart. Now this being really the State of the firſt Earth, the Fame and general Belief that the Torrid Zone was uninhabitable had this true Original, and continued ſtill with Poſterity after the Deluge, tho' the Cauſes then were taken away; for they being ignorant of the Change that was made in Nature at that Time, kept up ſtill the ſame Tradition and Opinion current, till Obſervation and Experience taught later Ages to correct it. As the true Miracles, that were in the Chriſtian Church at firſt, occaſion'd a Fame and Belief of their Continuance long after they had really ceas'd.

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This gives an eaſy Account, and, I think, the true Cauſe of that Opinion, amongſt the Ancients generally receiv'd, *That the Torrid Zone was uninhabitable.* I ſay, generally receiv'd; for not only the Poets, both *Greek* and *Latin*, but their Philoſophers, Aſtronomers and Geographers, had the ſame Notion, and deliver'd the ſame Doctrine; as *Ariſtotle*, *Cleomedes*, *Achilles Tatius*, *Ptolomy*, *Cicero*, *Strabo*, *Mela*, *Pliny*, *Macrobius*, *&c.* And to ſpeak Truth, the whole Doctrine of the Zones is calculated more properly for the firſt Earth, than for the preſent; for the Diviſions and Bounds of them now are but arbitrary, being habitable all over, and having no viſible Diſtinction; whereas they were then determin'd by Nature, and the Globe of the Earth was really divided into ſo many Regions of a very different Aſpect and Quality; which would have appear'd at a Diſtance, if they had been lookt upon from the Clouds, or from the Moon, as *Jupiter*'s Belts, or as ſo many Girdles or Swathing-bands about the Body of the Earth: And ſo the Word imports, and ſo the Ancients uſe to call them *Cinguli* and *Faſciæ*. But in the preſent Form of the Earth, if it was ſeen at a Diſtance, no ſuch Diſtinction would appear in the Parts of it, nor ſcarce any other but that of Land and Water, and of Mountains and Valleys, which are nothing to the purpoſe of Zones. And to add this Note further, When the Earth lay in this regular Form, divided into Regions or Walks, if I may ſo call them, as this gave Occaſion of its

Diſtinction by Zones; ſo if we might conſider all that Earth as a *Paradiſe*, and *Paradiſe* as a Garden; (for it is always call'd ſo in Scripture, and in *Jewiſh* Authors.) And as this Torrid Zone, bare of Graſs and Trees, made a kind of Gravel-walk in the Middle, ſo there was a green Walk on either Hand of it, made by the temperate Zones; and beyond thoſe lay a Canal, which water'd the Garden from either Side. (*See Fig.* 3. *c.* 5.)

But to return to Antiquity; We may add under this Head another Obſervation or Doctrine amongſt the Ancients, ſtrange enough in Appearance, which yet receives an eaſy Explication from the preceding Theory; They ſay, *The Poles* of the World did once change their Situation, and were at firſt in another Poſture from what they are in now, till that Inclination happen'd: This the ancient Philoſophers often make mention of, as *Anaxagoras*, *Empedocles*, *Diogenes*, *Leucippus*, *Democritus*; (*See the Lat. Treat. lib.* 2. *c.* 10.) as may be ſeen in *Laertius*, and in *Plutarch*; and the Stars, they ſay, at firſt were carried about the Earth in a more uniform Manner. This is no more than what we have obſerv'd and told you in other Words, namely, That the Earth chang'd its Poſture at the Deluge, and thereby made theſe ſeeming Changes in the Heavens; its Poles before pointed to the Poles of the Ecliptick, which now point to the Poles of the Æquator, and its Axis is become parallel with that Axis; and this is the Myſtery and Interpretation of what they ſay in other Terms;

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this makes the different Aſpect of the Heavens, and of its Poles: And I am apt to think, that thoſe Changes in the Courſe of the Stars, which the Ancients ſometimes ſpeak of, and eſpecially the *Egyptians*, if they did not proceed from Defects in their Calendar, had no other phyſical Account than this.

And as they ſay the Poles of the World were in another Situation at firſt, ſo at firſt they ſay, there was no Variety of Seaſons in the Year, as in their Golden Age. Which is very coherent with all the reſt, and ſtill runs along with the Theory. And you may obſerve, that all theſe Things we have inſtanc'd in hitherto are but Links of the ſame Chain, in Connexion and Dependance upon one another. When the primæval Earth was made out of the Chaos, its Form and Poſture was ſuch, as of Courſe brought on all thoſe Scenes which Antiquity hath kept the Remembrance of; tho' now in another State of Nature they ſeem very ſtrange; eſpecially being diſguis'd, as ſome of them are, by their odd Manner of repreſenting them. *That* the Poles of the World ſtood once in another Poſture; That the Year had no Diverſity of Seaſons; That the Torrid Zone was uninhabitable; That the two Hemiſpheres had no poſſibility of Intercourſe, and ſuch like; Theſe all hang upon the ſame String; or lean one upon another as Stones in the ſame Building; whereof we have, by this Theory, laid the very Foundation bare, that you may ſee what they all ſtand upon, and in what Order.

There is ſtill one remarkable Notion or Doctrine amongſt the Ancients which we have not ſpoken to; 'tis partly ſymbolical, and the Propriety of the Symbol, or of the Application of it, hath been little underſtood; 'tis their Doctrine of the *Mundane Egg*, or their comparing the World to an Egg, and eſpecially in the original Compoſition of it. This ſeems to be a mean Compariſon, the World and an Egg; what Proportion, or what Reſemblance betwixt theſe two Things? And yet I do not know any ſymbolical Doctrine, or Concluſion, that hath been ſo univerſally entertain'd by the *Myſtæ*, or wiſe and learned of all Nations; as hath been noted before in the fifth Chapter of the firſt Book, and at large in the *Latin* Treatiſe, (*Lib.* 2. *c.* 10.) 'Tis certain, that by the World in this Similitude, they do not mean the Great Univerſe, for that hath neither Figure, nor any determinate Form of Compoſition, and it would be a great Vanity and Raſhneſs in any one to compare this to an Egg: The Works of God are immenſe, as his Nature is infinite, and we cannot make any Image or Reſemblance of either of them; but this Compariſon is to be underſtood of the *Sublunary World*, or of the *Earth*: And for a general Key to Antiquity upon this Argument, we may lay this down as a Maxim or Canon, *That what the Ancients have ſaid concerning the Form and Figure of the World, or concerning the Original of it from a Chaos, or about its Periods and Diſſolution, are never to be underſtood of the Great Univerſe, but of our Earth, or of this* *ſublunary and terreſtrial World.* And this Obſervation being made, do but reflect upon our Theory of the Earth, the Manner of its Compoſition at firſt, and the Figure of it, being compleated, and you will need no other Interpreter to underſtand this Myſtery. We have ſhow'd there, (*Book* 1. *c.* 5.) that the Figure of it, when finiſht, was Oval, and the inward Form of it was a Frame of four Regions, encompaſſing one another, where that of Fire lay in the Middle like the Yolk, and a Shell of Earth inclos'd them all. This gives a Solution ſo eaſy and natural, and ſhows ſuch an Aptneſs and Elegancy in the Repreſentation, that one cannot doubt upon a View and Compare of Circumſtances, but that we have truly found out the Riddle of the Mundane Egg.

Amongſt other Difficulties ariſing from the Form of this preſent Earth, that is one, How *America* could be peopled, or any other Continent, or Iſland remote from all Continents, the Sea interpoſing. This Difficulty does not hold in our Theory of the firſt Earth, where there was no Sea. And after the Flood, when the Earth was broken and the Sea laid open, the ſame Race of Men might continue there, if ſettled there before. For I do not ſee any Neceſſity of deducing all Mankind from *Noah* after the Flood: If *America* was peopled before, it might continue ſo; not but that the Flood was univerſal. But when the great Frame of the Earth broke at the Deluge, Providence foreſaw into how many Continents it would be divided after the ceaſing of the

Flood; and accordingly, as we may reaſonably ſuppoſe, made Proviſion to ſave a Remnant in every Continent, that the Race of Mankind might not be quite extinct in any of them. What Proviſion he made in our Continent we know from ſacred Hiſtory; but as that takes Notice of no other Continent but ours, ſo neither could it take Notice of any Method that was us'd there for ſaving of a Remnant of Men; but 'twere great Preſumption, methinks, to imagine that Providence had a Care of none but us, or could not find out Ways of Preſervation in other Places, as well as in that where our Habitations were to be. *Aſia*, *Africk* and *Europe*, were repeopled by the Sons of *Noah*, *Shem*, *Ham*, and *Japhet*; but we read nothing of their going over into *America*, or ſending any Colonies thither; and that World, which is near as big as ours, muſt have ſtood long without People, or any thing of humane Race in it, after the Flood, if it ſtood ſo till this was full, or till Men navigated the Ocean, and by chance diſcover'd it: It ſeems more reaſonable to ſuppoſe, that there was a Stock providentially reſerv'd there, as well as here, out of which they ſprung again; but we do not pretend in an Argument of this Nature to define or determine any Thing poſitively. To conclude, As this is but a ſecondary Difficulty, and of no great Force, ſo neither is it any Thing peculiar to us, or to our *Hypotheſis*, but alike common to both; and if they can propoſe any reaſonable Way whereby the Sons of *Noah* might be tranſplanted into

America, with all my Heart; but all the Ways that I have met with hitherto have ſeem'd to me mere Fictions, or mere Preſumptions. Beſides, finding Birds and Beaſts there, which are no where upon our Continent, nor would live in our Countries if brought hither; 'tis a fair Conjecture that they were not carried from us, but originally bred and preſerv'd there.

Thus much for the Illuſtration of Antiquity in ſome Points of humane Literature, by our Theory of the primæval Earth; there is alſo in *Chriſtian Antiquity* a Tradition or Doctrine, that appears as obſcure and as much a Paradox as any of theſe, and better deſerves an Illuſtration, becauſe it relates more cloſely and expreſly to our preſent Subject: 'Tis that Notion or Opinion amongſt the Ancients concerning *Paradiſe*, that it was ſeated as high as the Sphere of the Moon, or *within the lunar Circle*. This looks very ſtrange, and indeed extravagantly at firſt Sight; but the Wonder will ceaſe, if we underſtand this not of *Paradiſe* taken apart from the reſt of the Earth, but of the whole primæval Earth, wherein the Seat of *Paradiſe* was; That was really ſeated much higher than the preſent Earth, and may be reaſonably ſuppos'd to have been as much elevated as the Tops of our Mountains are now. And that Phraſe of reaching to *the Sphere of the Moon*, ſignifies no more than thoſe other Expreſſions of *reaching to Heaven*, or *reaching above the Clouds*; which are Phraſes commonly us'd to expreſs the Height of Buildings, or of Mountains, and ſuch like Things: So the

Builders of *Babel* ſaid, they would make a Tower ſhould reach to Heaven; *Olympus* and *Parnaſſus* are ſaid by the Poets to reach to Heaven, or to riſe above the Clouds; and *Pliny* and *Solinus* uſe this very Expreſſion of the *Lunar Circle*, when they deſcribe the Height of Mount *Atlas*, *Eductus in viciniam Lunaris Circuli*, (*Solin.* c. 17.) The Ancients, I believe, aim'd particularly by this Phraſe, to expreſs an Height above the middle Region, or above our Atmoſphere, that *Paradiſe* might be ſerene; and where our Atmoſphere ended, they reckon'd the Sphere of the Moon begun, and therefore ſaid it reacht to the Sphere of the Moon. Many of the Chriſtian Fathers expreſt their Opinion concerning the high Situation of *Paradiſe* in plain and formal Terms, as St. *Baſil*, *Damaſcen*, *Moſes Bar Cepha*, *&c.* but this Phraſe of reaching to the *Lunar Circle* is repeated by ſeveral of them, and ſaid to be of great Antiquity. *Aquinas*, *Albertus*, and others, aſcribe it to *Bede*, but many to St *Auſtin*; and therefore *Ambroſius Catharinus*, (*Com. in Gen.* c. 2.) is angry with their great Schoolman, that he ſhould derive it from *Bede*, ſeeing St. *Auſtin* writing to *Oroſius*, deliver'd this Doctrine, which ſurely, ſays he, St. *Auſtin neither feign'd nor dream'd only, but had receiv'd it from Antiquity*: And from ſo great Antiquity, that it was no leſs than Apoſtolical, if we credit *Albertus Magnus*, and the ancient Books he appeals to; (*Sum. Theol. par.* 2. *tract.* 13. *q.* 79.) for he ſays this Tradition was deriv'd as high as from St. *Thomas* the Apoſtle. His Words are theſe, after he had deliver'd his own Opinion, *Hoc tamen dico, &c. But this I ſay, without Prejudice to the better Opinion, for I have found it in ſome moſt ancient Books, that* Thomas *the Apoſtle was the Author of that Opinion, which is uſually attributed to* Bede *and* Strabus, *namely, That* Paradiſe *was ſo high as to reach to the Lunar Circle.* But thus much concerning this Opinion, and concerning Antiquity.

To conclude all, we ſee this Theory, which was drawn only by a Thread of Reaſon, and the Laws of Nature, abſtractedly from all Antiquity, notwithſtanding caſts a Light upon many Paſſages there, which were otherwiſe accounted Fictions, or unintelligible Truths; and tho' we do not alledge theſe as Proofs of the Theory, for it carries its own Light and Proof with it; yet whether we will or no, they do mutually confirm, as well as illuſtrate one another; and 'tis a Pleaſure alſo, when one hath wrought out Truth by mere Dint of Thinking, and Examination of Cauſes, and propos'd it plainly and openly, to meet with it again among the Ancients, diſguis'd, and in an old faſhion'd Dreſs; ſcarce to be known or diſcover'd, but by thoſe that before-hand knew it very well. And it would be a further Pleaſure and Satisfaction to have render'd thoſe Doctrines and Notions, for the future, intelligible and uſeful to others, as well as delightful to our ſelves.

CHAP. IX.

A general Objection againſt this Theory, viz. *That if there had been ſuch a* Primitive Earth, *as we pretend, the Fame of it would have ſounded throughout all Antiquity. The eaſtern and weſtern Learning conſider'd. The moſt conſiderable Records of both are loſt. What Footſteps remain relating to this Subject. The* Jewiſh *and* Chriſtian *Learning conſider'd; how far loſt as to this Argument, and what Notes or Traditions remain. Laſtly, How far the ſacred Writings bear witneſs to it. The providential Conduct of Knowledge in the World. A Recapitulation and State of the Theory.*

HAving gone thro' the two firſt Parts, and the two firſt Books of this Theory, that concern the primitive World, the univerſal Deluge, and the State of *Paradiſe*, we have leiſure now to reflect a little, and conſider what may probably be objected againſt a Theory of this Nature. I do not mean ſingle Objections againſt ſingle Parts, for thoſe may be many, and ſuch as I cannot foreſee; but what may be ſaid againſt the Body and Subſtance of the Theory, and the Credibility of it, appearing new and ſurprizing, and yet of great Extent and Importance. This, I fancy, will induce many to ſay, ſurely this cannot be a Reality; for if there had been ſuch a primitive Earth, and ſuch a primitive

World as is here repreſented, and ſo remarkably different from the preſent, it could not have been ſo utterly forgotten, or lain hid for ſo many Ages; all Antiquity would have rung of it; the Memory of it would have been kept freſh by Books or Traditions. Can we imagine that it ſhould lie buried for ſome thouſands of Years in deep Silence and Oblivion? and now only when the ſecond World is drawing to an End, we begin to diſcover that there was a firſt, and that of another Make and Order from this.

To ſatisfy this Objection, or Surmiſe rather, it will be convenient to take a good large Scope and Compaſs in our Diſcourſe; we muſt not ſuppoſe that this primitive World hath been wholly loſt out of the Memory of Man, or out of Hiſtory, for we have ſome Hiſtory and Chronology of it preſerv'd by *Moſes*, and likewiſe in the Monuments of the Ancients, more or leſs; for they all ſuppos'd a World before the Deluge. But 'tis the Philoſophy of this primitive World that hath been loſt in a great Meaſure; what the State of Nature was then, and wherein it differ'd from the preſent or poſtdiluvian Order of Things. This, I confeſs, hath been little taken notice of; it hath been generally thought or preſum'd, that the World before the Flood was of the ſame Form and Conſtitution with the preſent World: This we do not deny, but rather think it deſign'd and providential, that there ſhould not remain a clear and full Knowledge of that firſt State of Things; and we may eaſily ſuppoſe how it might decay and periſh, if we conſider how little of the remote Antiquities of the World have ever been brought down to our Knowledge.

The *Greeks* and *Romans* divided the Ages of the World into three Periods or Intervals, whereof they call'd the firſt the *Obſcure* Period, the ſecond the *Fabulous*, and the third *Hiſtorical.* The dark and obſcure Period was from the Beginning of the World to the Deluge; what paſs'd then, either in Nature, or amongſt Men, they have no Records, no Account, by their own Confeſſion; all that Space of Time was cover'd with Darkneſs and Oblivion; ſo that we ought rather to wonder at thoſe Remains they have, and thoſe broken Notions of the Golden Age, and the Conditions of it, how they were ſav'd out of the common Shipwrack, than to expect from them the Philoſophy of that World, and all its Differences from the preſent. And as for the other Nations that pretend to greater Antiquities, to more ancient Hiſtory and Chronology, from what is left of their Monuments, many will allow only this Difference, that their fabulous Age begun more high, or that they had more ancient Fables.

But beſides that our Expectations cannot be great from the Learning of the *Gentiles*, we have not the Means or Opportunity to inform our ſelves well what Notions they did leave us concerning the primitive World; for their Books and Monuments are generally loſt, or lie hid unknown to us. The Learning of the

World may be divided into the Eaſtern Learning and the Weſtern; and I look upon the Eaſtern as far more conſiderable for philoſophical Antiquities, and philoſophical Concluſions; I ſay *Concluſions*, for I do not believe either of them had any conſiderable Theory, or Contexture of Principles and Concluſions together: But 'tis certain that in the Eaſt, from what Source ſoever it came, humane or divine, they had ſome extraordinary Doctrines and Notions diſperſt amongſt them. Now as by the weſtern Learning we underſtand that of the *Greeks* and *Romans*; ſo by the eaſtern, that which was amongſt the *Ægyptians*, *Phœnicians*, *Chaldæans*, *Aſſyrians*, *Indians*, *Æthiopians*, and *Perſians*; and of the Learning of theſe Nations, how little have we now left? except ſome Fragments and Citations in *Greek* Authors, what do we know of them? The modern *Bracmans*, and the *Perſees*, or *Pagan Perſians*, have ſome broken Remains of Traditions relating to the Origin and Changes of the World: But if we had not only thoſe Books entire, whereof we have now the Gleanings and Reverſions only; but all that have periſht beſides, eſpecially in that famous Library at *Alexandria*; if theſe, I ſay, were all reſtor'd to the World again, we might promiſe our ſelves the Satisfaction of ſeeing more of the Antiquities, and natural Hiſtory of the firſt World, than we have now left, or can reaſonably expect. That Library we ſpeak of at *Alexandria*, was a Collection, beſide *Greek* Books, of *Ægyptian*, *Chaldæan*, and all the eaſtern Learning; and *Cedrenus* makes it to conſiſt of an hundred thouſand Volumes: But *Joſephus* ſaith, when the Tranſlation of the Bible by the *Septuagint* was to be added to it, *Demetrius Phalerius*, (who was Keeper or Governor of it) told the King then, that he had already two hundred thouſand Volumes, and that he hop'd to make them five hundred thouſand; and he was better than his Word, or his Succeſſors for him; for *Ammianus Marcellinus*, and other Authors, report them to have increas'd to ſeven hundred thouſand. This Library was unfortunately burnt in the ſacking of *Alexandria* by *Cæſar*, and conſidering that all theſe were ancient Books, and generally of the eaſtern Wiſdom, 'twas an ineſtimable and irreparable Loſs to the Commonwealth of Learning. In like manner we are told of a vaſt Library of Books of all Arts and Sciences in *China*, burnt by the Command or Caprice of one of their Kings. Wherein the *Chineſes*, according to their Vanity, were us'd to ſay, greater Riches were loſt, than will be in the laſt Conflagration.

We are told alſo of the *Abyſſine*, or *Æthiopick* Library, as ſomething very extraordinary. 'Twas formerly in great Reputation, but is now, I ſuppoſe, embezil'd and loſt. But I was extremely ſurpriz'd by a Treatiſe brought to me ſome few Months ſince, wherein are mention'd ſome *Æthiopick* Antiquities relating to the primæval Earth and the Deluge: To both which they give ſuch Characters and Properties as are in Effect the very ſame with thoſe aſſign'd them in this Theory. They ſay the firſt Earth was much greater than the preſent, higher and more advanc'd into the Air: That it was ſmooth and regular in its Surface, without Mountains or Valleys, but hollow within; and was ſpontaneouſly fruitful, without plowing or ſowing. This was its firſt State; but when Mankind became degenerate and outragious with Pride and Violence, the angry Gods, as they ſay, by Earthquakes and Concuſſions broke the habitable Orb of the Earth, and thereupon the ſubterraneous Waters guſhing out, drown'd it in a Deluge, and deſtroy'd Mankind. Upon this Fraction, it came into another Form, with a Sea, Lakes and Rivers, as we now have. And thoſe Parts of the broken Earth that ſtood above the Waters, became Mountains, Rocks, Iſlands, and ſo much of the Land as we now inhabit. This Account is given us by *Barnardinus Ramazzinus*, (in his Treatiſe *De Fontium Mutinenſium Scaturigine.**) Taken from a Book writ by *Franciſco Patricio*, to whom this wonderful Tradition was deliver'd by Perſons of Credit, from an *Æthiopian* Philoſopher then in *Spain.* I have not yet had the good Fortune to ſee that Book of *Franciſco Patricio* ; 'tis writ in *Italian* with this Title, *Della Rhetorica degli Antichi* : Printed at *Venice*, 1562. This Story indeed deſerves to be enquired after, for we do not any where amongſt the Ancients meet with ſuch a full and explicit Narration of the State of the firſt and ſecond Earth. That which comes neareſt to it are thoſe Accounts we find in *Plato*, from the *Ægyptian* Antiquities, in his *Timæus*, *Politicus*, and *Phœdo*, of another Earth, and another State of Nature and Mankind. But none of them are ſo full and diſtinct as this *Æthiopian* Doctrine.

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* Page 41. *Franciſcus Patricius, Vir eruditione ſat clarus, in quodam libello ſuo de Antiquorum Rhetoricâ, Italico idiomate conſcripto, ac Venetiis impreſſo per Franciſcum Senenſem, Dialogo primo ſatis lepidam narrationem habet, quam refert Julium Strozzam à Comite Balthaſare Caſtilioneo audiviſſe, Illum verò à Philoſopho quodam Abyſſino in Hiſpaniâ accepiſſe. Narrabat ergo ſapiens ille Abyſſinus in antiquiſſimis Æthiopiæ Annalibus deſcriptam eſſe hiſtoriam perditionis humani generis & diſruptionis totius Terræ. In Mundi ſcilicet primordiis fuiſſe Terram multo ampliorem quàm nunc eſt, ac Cœlo proximiorem, perfectè rotundam, ſine Montibus, ac Vallibus, totam tamen intus cavernoſam ad inſtar ſpongiæ, homineſque in illâ habitantes, ac æthere puriſſimo gaudentes, jucundum ævum duxiſſe, Terrâ inaratâ optimas fruges, & fructus ferente. Cum autem poſt diuturnum ſæculorum fluxum homines ſuperbiâ elati à priſcâ illâ bonitate deſciviſſent, Deos iratos*

As for the weſtern Learning, we may remember what the *Ægyptian* Prieſt ſays to *Solon* in *Plato*'s *Timæus*, *You Greeks are always Children*, and know nothing of Antiquity ; and if the *Greeks* were ſo, much more the *Romans*, who came after them in time ; and for ſo great a People, and ſo much civiliz'd, never any had leſs Philoſophy, and leſs of the Sciences amongſt them than the *Romans* had : They

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tos Terram adeo validè concuſſiſſe, ut major illius pars intra proprias cavernas deciderit, atque hoc pacto Aquam in latebroſis receſſibus ante concluſam, expreſſam violenter fuiſſe, atque ita Fontes, Flumina, Lacus & Mare ipſum ortum duxiſſe. Eam vero Terræ portionem quæ intra has cavernas non decidiſſet, ſed reliquâ elatior ſtetiſſet, Montium formam exhibuiſſe. Inſulas porrò & ſcopulos in medio mari nil aliud eſſe niſi ſegmenta Terræ cavernoſæ ab illo totius terrenæ molis præcipiti caſu ſuperſtitis.

ſtudied only the Art of Speaking, of Governing, and of Fighting; and left the reſt to the *Greeks* and eaſtern Nations, as unprofitable. Yet we have Reaſon to believe, that the beſt philoſophical Antiquities that the *Romans* had, periſh'd with the Books of *Varro*, of *Numa Pompilius*, and of the ancient *Sibyls*, (*De Civ. Dei, lib.* 6. *Dion. Halic. Ant. Rom. lib.* 4.) *Varro* writ, as St. *Auſtin* tells us, a Multitude of Volumes, and of various Sorts, and I had rather retrieve his Works, than the Works of any other *Roman* Author; not his Etymologies and Criticiſms, where we ſee nothing admirable, but his *Theologia Phyſica*, and his *Antiquitates*; which in all Probability would have given us more Light into remote Times, and the natural Hiſtory of the paſt World, than all the *Latin* Authors beſides have done. He has left the foremention'd Diſtinction of three Periods of Time; He had the Doctrine of the *Mundane Egg*, as we ſee in *Probus Grammaticus*; and he gave us that Obſervation of the Star *Venus*, concerning the great Change ſhe ſuffer'd about the Time of our Deluge.

Numa Pompilius was doubtleſs a contemplative Man, and 'tis thought that he underſtood the true Syſtem of the World, and repreſented the Sun by his *Veſtal Fire*; tho', methinks, *Veſta* does not ſo properly refer to the Sun, as to the Earth, which hath a ſacred Fire too, that is not to be extinguiſht. He order'd his Books to be buried with him, which were found in a Stone Cheſt by him, four hundred Years after his Death: They were in all twenty-four, ty-four, whereof twelve contain'd ſacred Rites and Ceremonies, and the other twelve the Philoſophy and Wiſdom of the *Greeks*; the *Romans* gave them to the *Prætor Petilius* to peruſe; and to make his Report to the Senate, whether they were fit to be publiſht or no: The *Prætor* made a wiſe politick Report, that the Contents of them might be of dangerous Conſequence to the eſtabliſht Laws and Religion; and thereupon they were condemn'd to be burnt, and Poſterity was depriv'd of that ancient Treaſure, whatſoever it was. What the nine Books of the *Sibyl* contain'd, that were offer'd to King *Tarquin*, we little know; ſhe valued them high, and the higher ſtill, the more they ſeem'd to ſlight or neglect them; which is a Piece of very natural Indignation or Contempt, when one is ſatisfied of the Worth of what they offer. 'Tis likely they reſpected, beſides the Fate of *Rome*, the Fate and ſeveral Periods of the World, both paſt and to come, and the moſt myſtical Paſſages of them. And in theſe Authors and Monuments are loſt the greateſt Hopes of natural and philoſophick Antiquities, that we could have had from the *Romans*.

And as to the *Greeks*, their beſt and ſacred Learning was not originally their own; they enricht themſelves with the Spoils of the Eaſt, and the Remains we have of that eaſtern Learning, is what we pick out of the *Greeks*; whoſe Works, I believe, if they were entirely extant, we ſhould not need to go any further for Witneſſes to confirm all the principal Parts of this Theory. With what Regret does one read in *Laertius*, *Suidas*, and others, the promiſing Titles of Books writ by the *Greek* Philoſophers, hundreds or thouſands, whereof there is not one now extant; and thoſe that are extant are generally but Fragments: Thoſe Authors alſo that have writ their Lives, or collected their Opinions, have done it confuſedly and injudiciouſly. I ſhould hope for as much Light and Inſtruction, as to the Original of the World, from *Orpheus* alone, if his Works had been preſerv'd, as from all that is extant now of the other *Greek* Philoſophers. We may ſee from what remains of him, that he underſtood in a good Meaſure how the Earth roſe from a Chaos, what was its external Figure, and what the Form of its inward Structure: The Opinion of the *Oval* Figure of the Earth is aſcrib'd to *Orpheus* and his Diſciples; and the Doctrine of the *Mundane Egg* is ſo peculiarly his, that 'tis call'd by *Proclus*, the *Orphick Egg*; not that he was the firſt Author of that Doctrine, but the firſt that brought it into *Greece*.

Thus much concerning the Heathen Learning, eaſtern and weſtern, and the ſmall Remains of it in Things Philoſophical; 'tis no Wonder then if the Account we have left us from them of the primitive Earth, and the Antiquities of the natural World be very imperfect. And yet we have trac'd (in the precedent Chapter, and more largely in our *Latin* Treatiſe) the Footſteps of ſeveral Parts of this Theory amongſt the Writings and Traditions of the Ancients, and even of thoſe Parts that ſeem the moſt ſtrange and ſingular, and that are the Baſis upon which the reſt ſtand. We have ſhown there, that their Account of the Chaos, tho' it ſeem'd to many but a poetical Rhapſody, contain'd the true Myſtery of the Formation of the primitive Earth, (*Tell. Theor. lib.* 2. *c.* 7.) We have alſo ſhown upon the ſame Occaſion, that both the external Figure and internal Form of that Earth were compriz'd and ſignified in their ancient Doctrine of the Mundane Egg, which hath been propagated through all the learned Nations, (*Ibid. Cap.* 10.) And laſtly, As to the Situation of that Earth, and the Change of its Poſture ſince, that the Memory of that has been kept up, we have brought ſeveral Teſtimonies and Indications from the *Greek* Philoſophers, (*Ibid.*) And theſe were the three great and fundamental Properties of the primitive Earth, upon which all the other depend, and all its Differences from the preſent Order of Nature. You ſee then, tho' Providence hath ſuffer'd the ancient Heathen Learning and their Monuments, in a great Part, to periſh, yet we are not left wholly without Witneſſes amongſt them, in a Speculation of this great Importance.

You will ſay, it may be, tho' this Account, as to the Books and Learning of the Heathen, may be lookt upon as reaſonable, yet we might expect however, from the *Jewiſh* and *Chriſtian* Authors, a more full and ſatisfactory Account of that primitive Earth, and of the old World. Firſt, as to the *Jews*, 'tis well known that they have no ancient Learning,

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unleſs by Way of Tradition, amongſt them. There is not a Book extant in their Language, excepting the Canon of the Old Teſtament, that hath not been writ ſince our Saviour's Time. They are very bad Maſters of Antiquity, and they may in ſome Meaſure be excus'd, becauſe of their ſeveral Captivities, Diſperſions, and Deſolations. In the *Babyloniſh* Captivity their Temple was ranſack'd, and they did not preſerve, as is thought, ſo much as the Autograph or original Manuſcript of the Law, nor the Books of thoſe of their Prophets that were then extant, and kept in the Temple; and at their Return from the Captivity after ſeventy Years, they ſeem to have had forgot their native Language ſo much, that the Law was to be interpreted to them in *Chaldee*, after it was read in *Hebrew*; for ſo I underſtand that Interpretation in *Nehemiah*, (*Chap.* 8. 7, 8.) 'Twas a great Providence, methinks, that they ſhould any Way preſerve their Law, and other Books of Scripture, in the Captivity, for ſo long a Time; for 'tis likely they had not the Liberty of uſing them in any publick Worſhip, ſeeing they return'd ſo ignorant of their own Language, and, as 'tis thought, of their Alphabet and Character too. And if their ſacred Books were hardly preſerv'd, we may eaſily believe all others periſht in that publick Deſolation.

Yet there was another Deſtruction of that Nation, and their Temple, greater than this, by the *Romans*; and if there were any Remains of Learning preſerv'd in the former

Ruin, or any Recruits made ſince that Time, this ſecond Deſolation would ſweep them all away. And accordingly we ſee they have nothing left in their Tongue, beſide the Bible, ſo ancient as the Deſtruction of *Jeruſalem.* Theſe, and other publick Calamities of the *Jewiſh* Nation may reaſonably be thought to have waſted their Records of ancient Learning, *if they had any*; for to ſpeak Truth, the *Jews* are a People of little Curioſity, as to Sciences and philoſophical Enquiries: They were very tenacious of their own Cuſtoms, and careful of thoſe Traditions that did reſpect them, but were not remarkable, that I know of, or thought great Proficients in any other ſort of Learning. There has been a great Fame, 'tis true, of the *Jewiſh Cabala*, and of great Myſteries contain'd in it; and, I believe, there was once a traditional Doctrine amongſt ſome of them, that had extraordinary Notions and Concluſions: But where is this now to be found? The *Eſſenes* were the likelieſt Sect, one would think, to retain ſuch Doctrines; but 'tis probable they are now ſo mixt with Things fabulous and fantaſtical, that what one ſhould alledge from thence would be of little or no Authority. One Head in this *Cabala* was the Doctrine of the *Sephiroth*, (*Vide Men. ben Iſr. de Creat. prob.* 28.) and tho' the Explication of them be uncertain, the inferior *Sephiroth* in the corporeal World cannot ſo well be apply'd to any Thing, as to thoſe ſeveral Orbs and Regions, infolding one another, whereof the primigenial Earth was compos'd. Yet ſuch Conjectures and Applications, I know, are of no Validity, but in Conſort with better Arguments. I have often thought alſo, that their firſt and ſecond Temple repreſented the firſt and ſecond Earth or World; and that of *Ezekiel's*, which is the third, is ſtill to be erected, the moſt beautiful of all, when this ſecond Temple of the World ſhall be burnt down. If the Propheсies of *Enoch* had been preſerv'd, and taken into the Canon by *Ezra*, after their Return from *Babylon*, when the Collection of their ſacred Books is ſuppos'd to have been made, we might probably have had a conſiderable Account there, both of Times paſt and to come, of Antiquities and Futuritions; for thoſe Prophecies are generally ſuppos'd to have contain'd both the firſt and ſecond Fate of this Earth, and all the Periods of it. But as this Book is loſt to us, ſo I look upon all others that pretend to be Ante-Moſaical or Patriarchal, as ſpurious and fabulous.

Thus much concerning the *Jews*. As for *Chriſtian* Authors, their Knowledge muſt be from ſome of theſe foremention'd *Jews* or *Heathens*; or elſe by Apoſtolical Tradition: For the *Chriſtian* Fathers were not very ſpeculative, ſo as to raiſe a Theory from their own Thoughts and Contemplations, concerning the Origin of the Earth. We have inſtanc'd, in the laſt Chapter, in a *Chriſtian* Tradition concerning *Paradiſe*, and the high Situation of it, which is fully conſonant to the Scite of the Primitive Earth, where *Paradiſe* ſtood, and doth ſeem plainly to refer to it, being unintelligible upon any other Suppoſition. And 'twas, I believe, this Elevation of *Paradiſe*, and the Pencil Structure of that *Paradiſiacal* Earth, that gave Occaſion to *Celſus*, as we ſee by *Origen*'s Anſwer, to ſay, that the *Chriſtian Paradiſe* was taken from the penſile Gardens of *Alcinous*: But we may ſee now what was the Ground of ſuch Expreſſions or Traditions amongſt the Ancients, which Providence left to keep Mens Minds awake; not fully to inſtruct them, but to confirm them in the Truth, when it ſhould come to be made known in other Methods. We have noted alſo above, that the ancient Books and Authors amongſt the *Chriſtians*, that were moſt likely to inform us in this Argument, have periſh'd, and are loſt out of the World, ſuch as *Ephrem Syrus de ortu rerum*, and *Tertullian de Paradiſo*; and that Piece, which is extant of *Moſes Bar Cepha*'s upon this Subject, receives more Light from our *Hypotheſis*, than from any other I know; for, correcting ſome Miſtakes about the Figure of the Earth, which the Ancients were often guilty of, the Obſcurity or Confuſion of that Diſcourſe in other things may be eaſily rectified, if compar'd with this Theory.

Of this Nature alſo is that Tradition that is common both to *Jews* and *Chriſtians*, and which we have often mentioned before, that there was a perpetual Serenity, and perpetual Equinox in *Paradiſe*; which cannot be upon this Earth, not ſo much as under the Equinoctial; for they have a ſort of Winter and Summer there, a Courſe of Rains at certain times of the Year, and great Inequalities of the Air, as to Heat and Cold, Moiſture and Drought. They had alſo Traditions amongſt them, *That there was no Rain from the Beginning of the World till the Deluge*, and *that there were no Mountains till the Flood*, (Lat. Treat. Lib. 2. c. 10.) and ſuch like. Theſe, you ſee, point directly at ſuch an Earth, as we have deſcrib'd. And I call theſe *Traditions*, becauſe we cannot find the Original Authors of them; the ancient *ordinary Gloſs* (upon *Geneſis*) which ſome make eight hundred Years old, mentions both theſe Opinions; ſo does *Hiſtoria Scholaſtica*, *Alcuinus*, *Rabanus Maurus*, *Lyranus*, and ſuch Collectors of Antiquity. *Bede* alſo relates that of the *Plainneſs* or Smoothneſs of the *Antediluvian* Earth. Yet theſe are reported Traditionally, as it were, naming no Authors or Books from whence they were taken: Nor can it be imagin'd that they feign'd them themſelves; to what End or Purpoſe? it ſerv'd no Intereſt; or upon what Ground? ſeeing they had no Theory that could lead them to ſuch Notions as theſe, or that could be ſtrengthen'd and confirm'd by them. Thoſe Opinions alſo of the Fathers, which we recited in the ſeventh Chapter, placing *Paradiſe* beyond the Torrid Zone, and making it therefore inacceſſible, ſuit very well to the Form, Qualities, and Bipartition of the Primæval Earth; and ſeem to be grounded upon them.

Thus much may ſerve for a ſhort Survey of the antient Learning, to give us a reaſonable

Account, why the Memory and Knowledge of the Primitive Earth ſhould be ſo much loſt out of the World; and what we retain of it ſtill; which would be far more, I do not doubt, if all Manuſcripts were brought to light, that are yet extant in publick or private Libraries. The Truth is, one cannot judge with Certainty, neither what things have been recorded and preſerv'd in the Monuments of Learning, nor what are ſtill; not what have been, becauſe ſo many of thoſe Monuments are loſt: The *Alexandrian* Library, which we ſpoke of before, ſeems to have been the greateſt Collection that ever was made before Chriſtianity, and the *Conſtantinopolitan* (begun by *Conſtantine*, and deſtroy'd in the fifth Century, when it was rais'd to the Number, as is ſaid, of one hundred twenty thouſand Volumes) the moſt valuable that was ever ſince, and both theſe have been permitted by Providence to periſh in the mercileſs Flames. Beſide thoſe Devaſtations of Books and Libraries that have been made in Chriſtendom, by the *Northern* barbarous Nations overflowing *Europe*, and the *Saracens* and *Turks*, great Parts of *Aſia* and *Africk*. It is hard therefore to pronounce what Knowledge hath been in the World, or what Accounts of Antiquity; neither can we well judge what remain, or of what things the Memory may be ſtill latently conſerv'd: For beſide thoſe Manuſcripts that are yet unexamin'd in theſe Parts of Chriſtendom, there are many, doubtleſs, of good Value in other Parts; beſide thoſe that lie hid in the unchriſtianiz'd tianiz'd Dominions. The Library of *Fez* is ſaid to contain thirty two thouſand Volumes in *Arabick*; and though the *Arabick* Learning was moſt what *Weſtern*, and therefore of leſs Account, yet they did deal in *Eaſtern* Learning too; for *Avicenna* writ a Book with that Title, *Philoſophia Orientalis*. There may be alſo in the *Eaſt* Thouſands of Manuſcripts unknown to us, of greater Value than moſt Books we have: And as to thoſe Subjects we are treating of, I ſhould promiſe my ſelf more Light and Confirmation from the *Syriack* Authors than from any others. Theſe things being conſider'd, we can make but a very imperfect Eſtimate, what Evidences are left us, and what Accounts of the primitive Earth; and if theſe Deductions and Defalcations be made, both for what Books are wholly loſt, and for what lie aſleep or dead in Libraries, we have Reaſon to be ſatisfied in a Theory of this Nature, to find ſo good Atteſtations as we have produc'd for the ſeveral Parts of it; which we purpoſe to enlarge upon conſiderably at another time and occaſion.

But to carry this Objection as far as may be, let us ſuppoſe it to be urg'd ſtill in the laſt Place, that though theſe Humane Writings have periſh'd, or be imperfect, yet in the Divine Writings at leaſt, we might expect that the Memory of the old World, and of the primitive Earth ſhould have been preſerv'd. To this I anſwer in ſhort, that we could not expect in the Scriptures any natural Theory of that Earth, nor any Account of it, but what was general; and this we have both by the *Tehom Rabba* of *Moſes*, and the Deſcription of the ſame Abyſs in other Places of Scripture, as we have ſhown at large in the firſt Book, *Chap.* 7. And alſo by the Deſcription which St. *Peter* hath given of the antediluvian Heavens and Earth, and their different Conſtitution from the preſent; which is alſo prov'd by the Rainbow, not ſeen in the firſt World. You will ſay, it may be, that that Place of St. *Peter*, 2 *Pet.* 3. 5, *6*, *&c.* is capable of another Interpretation; ſo are moſt Places of Scripture, if you ſpeak of a bare Capacity, they are capable of more than one Interpretation: But that which is moſt natural, proper, and congruous, and ſuitable to the Words, ſuitable to the Argument, and ſuitable to the Context, wherein is nothing ſuperfluous or impertinent, that we prefer and accept of as the moſt reaſonable Interpretation. Beſides, in ſuch Texts as relate to the natural World, if of two Interpretations propos'd, one agrees better with the Theory of Nature than the other, *cæteris paribus*, that ought to be prefer'd. And by theſe two Rules we are willing to be try'd, in the Expoſition of that remarkable Diſcourſe of St. *Peter's*, and to ſtand to that Senſe which is found moſt agreeable to them.

Give me leave to conclude the whole Diſcourſe with this general Conſideration: 'Tis reaſonable to ſuppoſe, that there is a Providence in the Conduct of *Knowledge*, as well as of other Affairs on the Earth; and that it was not deſign'd that all the Myſteries of Nature and Providence ſhould be plainly and clearly underſtood throughout all the Ages of the World; but that there is an Order eſtabliſh'd for this, as for other Things, and certain Periods and Seaſons; and what was made known to the Ancients only by broken Concluſions and Traditions, will be known (in the latter Ages of the World) in a more perfect way, by Principles and Theories. The Increaſe of Knowledge being that which changeth ſo much the Face of the World, and the State of humane Affairs, I do not doubt but there is a particular Care and Superintendency for the Conduct of it; by what Steps and Degrees it ſhould come to light, at what Seaſons and in what Ages; what Evidence ſhould be left, either in Scripture, Reaſon or Tradition, for the Grounds of it; how clear or obſcure, how diſpers'd or united: All theſe things were weigh'd and conſider'd, and ſuch Meaſures taken as beſt ſuit the Deſigns of Providence, and the general Project and Method propos'd in the Government of the World. And I make no Queſtion but the State both of the Old World, and of that which is to come, is exhibited to us in Scripture in ſuch a Meaſure and Proportion, as is fit for this forementioned Purpoſe; not as the Articles of our Faith, or the Precepts of a good Life, which he that runs may read; but to the attentive and reflective, to thoſe that are unprejudic'd, and to thoſe are inquiſitive, and have their Minds open and prepar'd for the Diſcernment of Myſteries of ſuch a Nature.

Thus much in Anſwer to that general Objection which might be made againſt this Theory, *That* it is not founded in Antiquity. I do not doubt but there may be many particular Objections againſt Parts and Sections of it, and the expoſing it thus in our own Tongue may excite ſome or other, it may be, to make them; but if any be ſo minded, I deſire (if they be Scholars) that it may rather be in *Latin*, as being more proper for a Subject of this Nature; and alſo that they would keep themſelves cloſe to the Subſtance of the Theory, and wound that as much as they can: But to make Excurſions upon Things accidental or collateral, that do not deſtroy the *Hypotheſis*, is but to trouble the World with Impertinencies. Now the Subſtance of the Theory is this, THAT there was a *Primitive Earth* of another Form from the preſent, and inhabited by Mankind till the Deluge: That it had thoſe Properties and Conditions that we have aſcrib'd to it, namely, a perpetual Equinox or Spring, by reaſon of its *right* Situation to the Sun; was of an oval Figure, and the exterior Face of it ſmooth and uniform, without Mountains or a Sea. That in this Earth ſtood *Paradiſe*; the Doctrine whereof cannot be underſtood but upon Suppoſition of this primitive Earth, and its Properties. Then that the Diſruption and Fall of this Earth into the Abyſs, which lay under it, was that which made the univerſal Deluge, and the Deſtruction of the old World; and that neither *Noah*'s Flood, nor the preſent Form of the Earth, can be explain'd in any other Method that is rational, nor by any other Cauſes that are intelligible, at leaſt, that have been hitherto propos'd to the World. Theſe are the Vitals of the Theory, and the primary Aſſertions, whereof I do freely profeſs my full Belief; and whoſoever by ſolid Reaſons will ſhow me in an Error, and undeceive me, I ſhall be very much oblig'd to him. There are other leſſer Concluſions which flow from theſe, and may be call'd Secondary, as that the Longævity of the Ante-diluvians depended upon their perpetual Equinox, and the perpetual Equality and Serenity of the Air; That the Torrid Zone in the primitive Earth was uninhabitable, and that all their Rivers flow'd from the extreme Parts of the Earth towards the Equinoctial; there being neither Rain, nor Rainbow, in the temperate and habitable Regions of it: And laſtly, That the Place of *Paradiſe*, according to the Opinion of Antiquity, (for I determine no Place by the Theory) was in the ſouthern Hemiſphere. Theſe, I think, are all truly deduc'd and prov'd in their ſeveral Ways, tho' they be not ſuch eſſential Parts of the Theory, as the former. There are alſo beſides, many particular Explications that are to be conſider'd with more Liberty and Latitude, and may be perhaps upon better Thoughts, or better Obſervations, corrected, without any Prejudice to the general Theory. Thoſe Places of Scripture, which we have cited, I think, are all truly apply'd; and I have not mention'd *Moſes's Coſmopœia*, because I thought it deliver'd by him as a Lawgiver, not as a Philoſopher; which I intend to ſhow at large in another Treatiſe, not thinking that Diſcuſſion proper for the vulgar Tongue. Upon the whole, we are to remember, that ſome Allowances are to be made for every *Hypotheſis* that is new propos'd and untry'd; and that we ought not, out of Levity of Wit, or any private Deſign, diſcountenance free and fair Eſſays; nor from any other Motive, but the only Love and Concern of Truth.

CHAP. X.

Concerning the Author of Nature.

SEeing the Theory which we have propos'd in this Work is of that Extent and Comprehenſion, that it begins with the firſt Foundation of this World, and is to reach to the laſt Period of it, in one continued Series or Chain of Nature; it will not be improper, before we conclude, to make ſome Reflections and Remarks what *Nature* is, and upon what ſuperior Cauſes ſhe depends in all her Motions and Operations: And this will lead us to the Diſcovery of the *Author* of Nature, and to the true Notion and State of *Natural Providence*, which ſeems to have been hitherto very much neglected, or little underſtood in the World. And 'tis the more reaſonable and fitting that we ſhould explain theſe Notions before we ſhut up this Treatiſe, leſt thoſe natural Explications which we have given of the Deluge, and other Things, ſhould be miſtaken or miſapply'd; ſeeing ſome are apt to run away with Pieces of a Diſcourſe, which they think applicable to their Purpoſe, or which they can maliciouſly repreſent, without attending to the Scope or juſt Limitations of what is ſpoken.

By *Nature* in general is underſtood all the Powers of finite Beings, with the Laws eſtabliſht for their Action and Conduct according to the ordinary Courſe of Things. And this extends both to intellectual Beings and corporeal; but ſeeing 'tis only the material World that hath been the Subject of our Diſcourſe, Nature, as to that, may be defin'd, the Powers of *Matter*, with the Laws eſtabliſh'd for their Action and Conduct. Seeing alſo Matter hath no Action, whether from it ſelf, or impreſt upon it, but Motion, as to the corporeal World, Nature is no more than the Powers and Capacities of Matter, with the Laws that govern the Motions of it. And this Definition is ſo plain and eaſy, that, I believe, all Parties will agree in it; there will alſo be no great Controverſy what theſe Laws are. As that one Part of Matter cannot penetrate another, nor be in ſeveral Places at once; That the greater Body overcomes the leſs, and the ſwifter the ſlower; That all Motion is in a right Line, till ſomething obſtruct it or divert it; which are Points little diſputed as to the Matter of Fact; but the Points concerning which the Controverſy ariſeth, and which are to lead us to the Author of Nature, are theſe: *Who* or *what* is the Author of theſe *Laws*?

of this *Motion*, and even of *Matter* it ſelf; and of all thoſe Modes and Forms of it which we ſee in Nature?

The Queſtion uſeth chiefly to be put concerning *Motion*, how it came into the World; what the firſt Source of it is, or how Matter came at firſt to be mov'd? For the ſimple Notion of Matter, not divided into Parts, nor diverſified, doth not imply Motion, but Extenſion only: 'Tis true, from Extenſion there neceſſarily follows *Mobility*, or a Capacity of being mov'd by an external Power, but not actual or neceſſary Motion, ſpringing from it ſelf. For Dimenſions, or Length, Breadth, and Depth, which is the *Idea* of Matter, or of a Body, do no Way include local Motion, or Tranſlation of Parts; on the contrary, we do more eaſily and naturally conceive ſimple Extenſion as a Thing ſteady and fixt; and if we conceive Motion in it, or in its Parts, we muſt ſuperadd ſomething to our firſt Thought, and ſomething that does not flow from Extenſion. As when we conceive a Figure, a Triangle, Square, or any other, we naturally conceive it fixt or quieſcent; and if afterwards we imagine it in Motion, that is purely accidental to the Figure; in like Manner it is accidental to Matter, that there ſhould be Motion in it, it hath no inward Principle from whence that can flow, and its Nature is compleat without it; wherefore, if we find Motion and Action in Matter, which is of it ſelf a dead inactive Maſs; this ſhould lead us immediately to the Author of Nature, or to ſome external Power diſtinct from Matter, which is the Cauſe of all Motion in the World.

In ſingle Bodies, and ſingle Parts of Matter, we readily believe and conclude, that they do not move, unleſs ſomething move them, and why ſhould we not conclude the ſame Thing of the whole Maſs? If a Rock or Mountain cannot move it ſelf, nor divide it ſelf, either into great Gobbets, or into ſmall Powder, why ſhould it not be as impoſſible for the whole Maſs of Matter to do ſo? 'Tis true, Matter is capable both of Motion and Reſt; yet to conceive it undivided, undiverſified and unmov'd, is certainly a more ſimple Notion, than to conceive it divided and mov'd; and this being firſt in Order of Nature, and an adequate Conception too, we ought to enquire and give our ſelves an Account how it came out of this State, and by what Cauſes, or, as we ſaid before, how *Motion came firſt into the World.*

In the ſecond Place, That Diverſity which we ſee in Nature, both as to the Qualities of Matter, and the Compoſitions of it, being one Step further than bare Motion, ought alſo to be a further Indication of the Author of Nature, and to put us upon Enquiry into the Cauſes of this Diverſity. There is nothing more uniform than ſimple Extenſion, nothing more the ſame throughout, all of a Piece, and all of a ſort, ſimilar, and like to it ſelf every where; yet we find the Matter of the Univerſe diverſified a thouſand Ways, into Heavens and Earth, Air and Water, Stars, Meteors, Light, Darkneſs, Stones, Wood, Animals, and all terreſtrial Bodies: Theſe Diverſifications are ſtill further Removes from the natural Unity and Identity of Matter, and a further Argument of ſome external and ſuperior Power that hath given theſe different Forms to the ſeveral Portions of Matter by the Intervention of Motion. For if you exclude the Author of Nature, and ſuppoſe nothing but Matter in the World, take whether *Hypotheſis* you will, either that Matter is without Motion of it ſelf, or that it is of it ſelf in Motion, there could not ariſe this Diverſity, and theſe Compoſitions in it. If it was without Motion, then the Caſe is plain, for it would be nothing but an hard inflexible Lump of impenetrable Extenſion, without any Diverſity at all. And if you ſuppoſe it mov'd of it ſelf or to have an innate Motion, that would certainly hinder all ſort of natural Concretions and Compoſitions, and in Effect deſtroy all Continuity. For Motion, if it be eſſential to Matter, it is eſſential to every Atom of it, and equally diffus'd throughout all its Parts; and all thoſe Parts or Atoms would be equal to one another, and as little as poſſible; for if Matter was divided into Parts by its own innate Motion, that would melt it down into Parts as little as poſſible, and conſequently all equal to one another, there being no reaſon why you ſhould ſtop thoſe Diviſions, or the Effect of this innate *Impetus* in any one Part ſooner than in another, or in any Part indeed till it was divided as much as was poſſible: Wherefore upon this Principle, or in this Method, all the Matter of the Univerſe would be one liquid or volatile Maſs, ſmaller than Pin-duſt, nay, than Air or Æther; and there would be no Diverſity of Forms, only another ſort of Identity from the former, when we ſuppos'd it wholly without Motion. And ſo, upon the whole, you ſee, that Matter, whether we allow it Motion, or no Motion, could not come into that Variety of Tempers and Compoſitions in which we find it in the World, without the Influence and Direction of a ſuperior external Cauſe, which we call the Author of Nature.

But there is ſtill a further and ſtronger Argument from this Head, if we conſider not only the Diverſity of Bodies that the Maſs of Matter is cut into, but alſo that that Diverſity is *regular*, and in ſome Parts of it admirably artful and ingenious. This will not only lead us to an Author of Nature, but to ſuch an Author as hath Wiſdom as well as Power. Matter is a brute Being, ſtupid and ſenſeleſs; and tho' we ſhould ſuppoſe it to have a Force to move it ſelf, yet that it ſhould be able to meditate and conſult, and take its Meaſures how to frame a World, a regular and beautiful Structure, conſiſting of ſuch and ſuch Parts and Regions, and adapted to ſuch and ſuch Purpoſes, this would be too extravagant to imagine; to allow it not only Motion from it ſelf, but Wit and Judgment too; and that before it came into any organical or animate Compoſition.

You'll ſay, it may be, the Frame of the World was not the Reſult of Counſel and Conſultation, but of *Neceſſity*; Matter being once in Motion under the Conduct of thoſe Laws that are eſſential to it, it wrought it ſelf by Degrees from one State into another, till at length it came into the preſent Form which we call the World. Theſe are Words thrown out at Random, without any Pretence of Ground, only to ſee if they can be confuted; and ſo they may eaſily be; for we have ſhown already, that if Matter had innate Motion, it would be ſo far from running into the orderly and well diſpos'd Frame of the World, that it would run into no Frame at all, into no Forms or Compoſitions, or Diverſity of Bodies; but would either be all fluid, or all ſolid; either every ſingle Particle in a ſeparate Motion, or all in one continued Maſs, with an univerſal Tremor, or Inclination to move without actual Separation; and either of theſe two States is far from the Form of a World. Secondly, As to the Laws of Motion, as ſome of them are eſſential to Matter, ſo others are not demonſtrable, but upon Suppoſition of an Author of Nature. And thirdly, Tho' all the Laws of Motion be admitted, they cannot bring Matter into the Form of a World, unleſs ſome Meaſures be taken at firſt by an intelligent Being; I ſay, ſome Meaſures be taken to determine the primary Motions upon which the reſt depend, and to put them in a Way that leads to the Formation of a World. The Maſs muſt be divided into Regions, and

Centers fixt, and Motions appropriated to them; and it muſt be conſider'd of what Magnitude the firſt Bodies, or the firſt Diviſions of Matter ſhould be, and how mov'd: Beſides, there muſt be a determinate Proportion, and certain Degree of Motion impreſt upon the univerſal Matter, to qualify it for the Production of a World; if the Doſe was either too ſtrong or too weak, the Work would miſcarry; and nothing but infinite Wiſdom could ſee thro' the Effects of every Proportion, or every new Degree of Motion, and diſcern which was beſt for the Beginning, Progreſs, and Perfection of a World. So you ſee the Author of Nature is no Way excluded, or made uſeleſs by the Laws of Motion; nor if Matter was promiſcuouſly mov'd, would theſe be ſufficient Cauſes of themſelves to produce a World, or that regular Diverſity of Bodies that compoſe it.

But 'tis hard to ſatisfy Men againſt their Inclinations, or their Intereſt: And as the Regularity of the Univerſe was always a great Stumbling-ſtone to the *Epicureans*; ſo they have endeavour'd to make Shifts of all Sorts to give an Account and Anſwer to it, without Recourſe to an intelligent Principle; and for their laſt Refuge, they ſay, that Chance might bring that to paſs, which Nature and Neceſſity could not do; the Atoms might hit upon a lucky Set of Motions, which, tho' it were caſual and fortuitous, might happily lead them to the forming of a World. A lucky hit indeed, for Chance to frame a World: But this is a mere Shuffle and Colluſion; for if there was nothing in Nature but Matter, there could be no ſuch Thing as *Chance*, all would be pure *Mechanical Neceſſity*; and ſo this Anſwer, tho' it ſeem very different, is the ſame in effect with the former, and *Epicurus* with his Atomiſts are oblig'd to give a juſt mechanical Account, how all the Parts of Nature, the moſt compound and elaborate Parts not excepted, riſe from their Atoms by pure Neceſſity: There could be no accidental Concourſe or Coalition of them, every Step, every Motion, every Compoſition was fatal and neceſſary, and therefore 'tis Nonſenſe for an *Epicurean* to talk of Chance, as Chance is oppos'd to Neceſſity; and if they oppoſe it to *Counſel* and *Wiſdom*, 'tis little better than Nonſenſe, to ſay the World and all its Furniture roſe by Chance, in that Notion of it. But it will deſerve our Patience a little to give a more full and diſtinct Anſwer to this, ſeeing it reacheth all their Pleas and Evaſions at once.

What Proof or Demonſtration of Wiſdom and Counſel can be given, or can be deſir'd, that is not found in ſome Part of the World, animate or inanimate? We know but a little Portion of the Univerſe, a mere Point in Compariſon, and a broken Point too; and yet in this broken Point, or ſome ſmall Parcels of it, there is more of Art, Counſel and Wiſdom ſhown, than in all the Works of Men taken together, or than in all our *Artificial* World. In the Conſtruction of the Body of an Animal, there is more of Thought and Contrivance, more of exquiſite Invention, and fit Diſpoſition of Parts, than is in all the Temples, Palaces, Ships, Theatres, or any other Pieces of Architecture the World ever yet ſaw: And not Architecture only, but all other Mechaniſm whatſoever, Engines, Clock-work, or any other, is not comparable to the Body of a living Creature. Seeing then we acknowledge theſe artificial Works, whereſoever we meet with them, to be the Effects of Wit, Underſtanding and Reaſon, is it not manifeſt Partiality, or Stupidity rather, to deny the Works of Nature, which excel theſe in all Degrees, to proceed from an intelligent Principle? Let them take any Piece of humane Art, or any Machine fram'd by the Wit of Man, and compare it with the Body of an Animal, either for Diverſity and Multiplicity of Workmanſhip, or Curioſity in the minute Parts, or juſt Connexion and Dependance of one Thing upon another, or fit Subſerviency to the Ends propos'd, of Life, Motion, Uſe and Ornament to the Creature; and if in all theſe Reſpects they find it ſuperior to any Work of humane Production, (as they certainly muſt do) why ſhould it be thought to proceed from inferior and ſenſeleſs Cauſes? ought we not in this, as well as in other Things, to proportion the Cauſes to the Effect, and to ſpeak Truth, and bring in an honeſt Verdict for Nature as well as Art?

In the Compoſition of a perfect Animal, there are four ſeveral Frames or Compages join'd together, the natural, vital, animal and genital: Let them examine any one of theſe apart, and try if they can find any Thing defective or ſuperfluous, or any Way inept for Matter or Form. Let them view the whole Compages of the Bones, and eſpecially the admirable Conſtruction, Texture, and Diſpoſition of the Muſcles, which are join'd with them for moving the Body, or its Parts. Let them take an Account of the little Pipes and Conduits for the Juices and the Liquors, of their Form and Diſtribution; or let them take any ſingle Organ to examine, as the Eye, or the Ear, the Hand, or the Heart: In each of theſe they may diſcover ſuch Arguments of Wiſdom, and of Art, as will either convince them, or confound them; tho' ſtill they muſt leave greater undiſcover'd. We know little the inſenſible Form and Contexture of the Parts of the Body, nor the juſt Method of their Action: We know not yet the Manner, Order and Cauſes of the Motion of the Heart, which is the chief Spring of the whole Machine; and with how little Exactneſs do we underſtand the Brain, and the Parts belonging to it? Why of that Temper and of that Form: How Motions are propagated there, and how conſerv'd: How they anſwer the ſeveral Operations of the Mind: Why ſuch little Diſcompoſures of it diſturb our Senſes, and upon what little Differences in this the great Differences of Wits and Genius's depend. Yet ſeeing in all theſe Organs, whoſe Make and Manner of Action we cannot diſcover, we ſee however by the Effects, that they are truly fitted for thoſe Offices to which Nature hath deſign'd them, we ought in Reaſon to admire that Art which we cannot penetrate. At leaſt we cannot but judge it a Thing abſurd, that what we have not Wit enough to find out or comprehend, we ſhould not allow to be an Argument of Wit and Underſtanding in the Author, or Inventor of it. This would be againſt all Logick, common Senſe, and common *Decorum*. Neither do I think it poſſible to the Mind of Man, while we attend to Evidence, to believe that theſe, and ſuch like Works of Nature came by *Chance*, as they call it, or without Providence, Forecaſt and Wiſdom, either in the firſt Cauſes, or in the proximate; in the Deſign, or in the Execution; in the Preparation to them, or in the finiſhing of them.

Wherefore, in my Judgment, if any be of this Perſuaſion, it cannot be ſo much the Effect of their Underſtanding, as of their Diſpoſition and Inclination; and in moral Things, Mens Opinions do as often ſpring from the one, as from the other. For my Part, I do generally diſtinguiſh of two Sorts of Opinions in all Men, *Inclination-opinions*, and *Reaſon'd-opinions*; Opinions that grow upon Mens Complexions, and Opinions that are the Reſults of their Reaſon; and I meet with very few that are of a Temperament ſo equal, or a Conſtitution ſo even pois'd, but that they incline to one Set of Opinions rather than another, antecedently to all Proofs of Reaſon: And when they have eſpous'd their Opinions from that ſecret Sympathy,

pathy, then they find out as good Reaſons as they can to maintain them, and ſay, nay think ſometimes, that 'twas for the ſake of thoſe Reaſons that they firſt embrac'd them. We may commonly diſtinguiſh theſe Inclination-opinions from the rational, becauſe we find them accompanied with more Heat than Light, a great deal of Eagerneſs and Impatience in defending of them, and but ſlender Arguments. One might give Inſtances of this, both in Sects of Religion and Philoſophy, in *Platoniſts*, *Stoicks*, and *Epicureans*, that are ſo by their Temper more than their Reaſon; but to our Purpoſe it will be ſufficient to inſtance in one hearty *Epicurean*, *Lucretius*, who is manifeſtly ſuch, more from his Inclination, and the Bent of his Spirit, than from the Force of Argument. For tho' his Suppoſitions be very precarious, and his Reaſonings all along very ſlight, he will many times ſtrut and triumph, as if he had wreſted the Thunder out of *Jove*'s right Hand; and a Mathematician is not more confident of his Demonſtration, than he ſeems to be of the Truth of his ſhallow Philoſophy. From ſuch a Principle of natural Complexion as this, I allow a Man may be atheiſtical, but never from the calm Dictate of his Reaſon; yet he may be as confident and as tenacious of his Concluſion, as if he had a clear and diſtinct Evidence for it. For I take it to be a true Maxim in humane Nature, that *a ſtrong Inclination, with a little Evidence, is equivalent to a ſtrong Evidence.* And therefore we are not to be ſurpriz'd if we find Men confident in their Opinions many times far beyond the Degree of their Evidence, ſeeing there are other Things, beſides Evidence, that incline the Will to one Concluſion rather than another. And as I have inſtanc'd in natural Complexion, ſo *Intereſt* hath the ſame Effect upon humane Nature, becauſe it always begets an Inclination to thoſe Opinions that favour our Intereſt, and a Diſinclination to the contrary: And this Principle may be another Ingredient, and ſecret Perſuaſive to Atheiſm; for when Men have run themſelves ſo deep into Vice and Immorality, that they expect no Benefit from a God, 'tis in a Manner neceſſary to their Quiet, and the Eaſe of their Mind, that they ſhould fancy there is none; for they are afraid, if there be a God, that he will not ſtand neuter, and let them alone in another World. This, I ſay, is neceſſary to the Quiet of their Mind, unleſs they can attain that great Art, which many labour after, of *Non-reflection*, or an *unthinking Faculty*, as to God and a World to come. But to return to our Argument, after this ſhort Digreſſion------

And as that regular Diverſity which we ſee in the Forms of Nature, and eſpecially in the Bodies of Animals, could not be from any blind Principle either of Neceſſity or of Chance; ſo in the laſt Place, that *Subordination* which we ſee in the Parts of Nature, and Subſerviency to one another, the leſs Noble to the more Noble, the Inanimate to the Animate, and all Things upon Earth unto Man, muſt needs have been the Effect of ſome Being higher than Matter; that did wiſely diſpoſe all Things ſo at firſt, and doth ſtill conſerve them in the ſame Order. If Man had been born into the World, and a numerous Hoſt of Creatures, without any Proviſion or Accommodation made for their Subſiſtence and Conveniences, we might have ſuſpected that they had come by Chance, and therefore were ſo ill provided for: but which of them can complain? through their various Kinds and Orders, what is there awanting? They are all fitted to their ſeveral Elements, and their ways of living, Birds, Beaſts, and Fiſhes, both by the Form and Shape of their Bodies, the manner of their Covering, and the Quality of their Food. Beſides, they are inſtructed in little Arts and Inſtincts for their Conſervation; and not only for their proper Conſervation, but alſo to find a way to make and bring up young ones, and leave behind them a Poſterity: And all this in ſo fit a Method, and by ſuch a pretty Train of Actions, as is really admirable.

Man is the Maſter of all, and of him a double Care is taken; that he ſhould neither want what Nature can afford, nor what Art can ſupply.. He could not be provided of all Conveniences by Nature only, eſpecially to ſecure him againſt the Injuries of the Air; but in recompence, Nature hath provided Materials for all thoſe Arts which ſhe ſaw would be needful in humane Life, as Building, Cloathing, Navigation, Agriculture, *&c.* that ſo Mankind might have both wherewithal to anſwer their Occaſions, and alſo to employ their time;

and exerciſe their Ingenuity. This Oeconomy of Nature, as I may call it, or well ordering of the great Family of living Creatures, is an Argument both of Goodneſs and of Wiſdom, and is every way far above the Powers of Brute Matter. All regular Adminiſtration we aſcribe to Conduct and Judgment: If an Army of Men be well provided for in things neceſſary both for Food, Cloaths, Arms, Lodging, Security and Defence, ſo as nothing is awanting in ſo great a Multitude, we ſuppoſe it the Effect of Care and Forecaſt in thoſe Perſons that had the Charge of it; they took their Meaſures at firſt, computed and proportion'd one thing to another, made good Regulations, and gave Orders for convenient Supplies. And can we ſuppoſe the great Army of Creatures upon Earth manag'd and provided for with leſs Fore-thought and Providence, nay, with none at all, by meer Chance? This is to recede from all Rules and Analogy of Reaſon, only to ſerve a Turn, and gratify an unreaſonable Humour.

To conclude this Argument; there are two general Heads of things, if I recollect aright, which we make the Marks and Characters of Wiſdom and Reaſon, Works of Art, and the Conduct of Affairs or Direction of Means to an End; and whereſoever we meet, either with regular material Works, or a regular Ordination of Affairs, we think we have a good Title and Warrant to derive them from an intelligent Author: Now theſe two being found in the natural World, and that in an eminent

Degree, the one in the Frame of it, and the other in the Oeconomy of it, we have all the Evidence and Ground that can be in arguing from Things viſible to Things inviſible, that there is an Author of Nature, ſuperiour both to humane Power and humane Wiſdom.

Before we proceed to give any further Proofs or Diſcoveries of the Author of Nature, let us reflect a little upon thoſe we have already inſiſted upon; which have been taken wholly from the material World, and from the common Courſe of Nature. The very Exiſtence of Matter is a Proof of a Deity, for the *Idea* of it hath no Connexion with Exiſtence, as we ſhall ſhow hereafter; however we will take leave now to ſet it down with the reſt in Order as they follow one another.

1. *The Exiſtence of Matter.*
2. *The Motion of Matter.*
3. *The juſt Quantity and Degree of that Motion.*
4. *The firſt Form of the Univerſe upon Motion impreſt; both as to the Diviſions of Matter, and the Leading Motions.*
5. *The Laws for Communication and Regulation of that Motion.*
6. *The regular Effects of it, eſpecially in the Animate World.*
7. *The Oeconomy of Nature, and fit Subordination of one part of the World to another.*

The five firſt of theſe Heads are Prerequiſites, and Preparatives to the Formation of a World, and the two laſt are as the Image and

Character of its Maker, of his Power, Goodneſs and Wiſdom, impreſt upon it. Every one of them might well deſerve a Chapter to it ſelf, if the Subject was to be treated on at large; but this is only an occaſional Diſſertation, to ſtate the Powers of Matter, leſt they ſhould be thought boundleſs, and the Author of Nature unneceſſary, as the *Epicureans* pretend; but notwithſtanding their vain Confidence and Credulity, I defy them, or any Man elſe, to make Senſe of the material World, without placing a God at the Center of it.

To theſe Conſiderations taken wholly from the corporeal World, give me leave to add one of a mix'd Nature, concerning the *Union of our Soul and Body*. This ſtrange Effect, if rightly underſtood, doth as truly diſcover the Author of Nature, as many Effects that are accounted more ſupernatural. The Incarnation, as I may ſo ſay, of a ſpiritual Subſtance, is to me a kind of ſtanding Miracle; that there ſhould be ſuch an Union and Connexion reciprocally betwixt the Motions of the Body, and the Actions and Paſſions of the Soul; betwixt a Subſtance intellectual, and a Parcel of organiz'd Matter; can be no Effect of either of thoſe Subſtances; being wholly diſtinct in themſelves, and remote in their Natures from one another. For Inſtance, when my Finger is cut, or when 'tis burnt, that my Soul thereupon ſhould feel ſuch a ſmart and violent Pain, is no Conſequence of Nature, or does not follow from any Connexion there is betwixt the

Motion or Diviſion of that Piece of Matter, I call my Finger, and the Paſſion of that Spirit I call my Soul; for theſe are two diſtinct Eſſences, and in themſelves independent upon one another, as much as the Sun and my Body are independent; and there is no more Reaſon in ſtrict Nature, or in the eſſential Chain of Cauſes and Effects, that my Soul ſhould ſuffer, or be affected with this Motion in the Finger, than that the Sun ſhould be affected with it; nay, there is leſs Reaſon, if leſs can be, for the Sun being corporeal, as the Finger is, there is ſome remote Poſſibility that there might be Communication of Motion betwixt them; but Motion cannot beget a Thought, or a Paſſion, by its own Force; Motion can beget nothing but Motion, and if it ſhould produce a Thought, the Effect would be more noble than the Cauſe. Wherefore this Union is not by any Neceſſity of Nature, but only from a poſitive Inſtitution or Decree, eſtabliſh'd by the Author of Nature, that there ſhould be ſuch a Communication betwixt theſe two Subſtances for a time, *viz.* during the Vitality of the Body.

'Tis true indeed, if Thought, Apprehenſion, and Reaſon, was nothing but corporeal Motion, this Argument would be of no Force; but to ſuppoſe this, is to admit an Abſurdity to cure a Difficulty; to make a Thought out of a local Motion is like making a God out of a Stock, or a Stone; for theſe two are as remote in their Nature, and have as different *Idea's* in the Mind, as any two diſparate Things we can propoſe or conceive; Number and Colour, a Triangle and Virtue, Free-will and a Pyramid, are not more unlike, more diſtant, or of more different Forms, than Thought and local Motion. Motion is nothing but a Body's changing its Place and Situation amongſt other Bodies, and what Affinity or Reſemblance hath that to a *Thought?* How is that like to Pain, or to a Doubt of the Mind? to Hope or to Deſire? to the *Idea* of God? to any Act of the Will or Underſtanding, as judging, conſenting, reaſoning, remembring, or any other? Theſe are things of ſeveral Orders that have no Similitude, nor any Mixture of one another. And as this is the Nature of Motion, ſo, on the other hand, in a *Thought* there are two Things, *Conſciouſneſs* and a *Repreſentation*; Conſciouſneſs is in all Thoughts indifferently, whether diſtinct or confus'd, for no Man thinks but he is conſcious that he thinks, nor perceives any thing but he is conſcious that he perceives it; there is alſo in a Thought, eſpecially if it be diſtinct, a Repreſentation; 'tis the Image of that we think upon, and makes its Object preſent to the Mind. Now what hath local Motion to do with either of theſe two, Conſciouſneſs or Repreſentativeneſs? How doth it include either of them, or hold them any way affix'd to its Nature? I think one may with as good Senſe and Reaſon ask of what Colour a Thought is, green or ſcarlet, as what ſort of Motion it is; for Motion, of what ſort ſoever, can never be conſcious, nor repreſent Things as our Thoughts do. I have noted thus much in general, only to ſhow the different Nature of Motion and Cogitation, that we may be the more ſenſible that they have no mutual Connexion in us, nor in any other Creature, from their Eſſence or eſſential Properties, but by a ſupervenient Power from the Author of Nature, who hath thus united the Soul and the Body in their Operations.

We have hitherto only conſider'd the ordinary Courſe of Nature, and what Indications and Proofs of its Author, that affords us: There is another remarkable Head of Arguments from Effects, extraordinary and ſupernatural, ſuch as Miracles, Prophecies, Inſpirations, Prodigies, Apparitions, Witchcraft, Sorceries, *&c.* Theſe, at one Step, lead us to ſomething above Nature, and this is the ſhorteſt way, and the moſt popular; ſeveral Arguments are ſuited to ſeveral Tempers, and God hath not left himſelf without a proper Witneſs to every Temper that is not wilfully blind. Of theſe Witneſſes we now ſpeak of, the moſt conſiderable are Miracles, and the moſt conſiderable Records of them are the Books of Scripture; which if we conſider only as an Hiſtory, and as having nothing ſacred in them more than other good Hiſtories, that is, Truth in Matter of Fact, we cannot doubt but there have been Miracles in the World; that *Moſes* and the Prophets, our Saviour and his Apoſtles, wrought Miracles, I can no more queſtion, than that *Cæſar* and *Alexander* fought Battels, and took Cities. So alſo that there were true Prophecies and Inſpirations, we know from Scripture, only conſider'd as a true Hiſtory.

tory. But as for other ſupernatural Effects that are not recorded there, we have Reaſon to examine them more ſtrictly before we receive them, at leaſt as to particular Inſtances; for I am apt to think they are like Lotteries, where there are ten or twenty Blanks for one Prize; but yet if there were no Prizes at all, the Lottery would not have Credit to ſubſiſt, and would be cry'd down as a perfect Cheat: So if amongſt thoſe many Stories of Prodigies, Apparitions, and Witchcrafts, there were not ſome true, the very Fame and Thought of them would die from amongſt Men, and the firſt Broachers of them would be hooted at as Cheats. As a falſe Religion, that hath nothing true and ſolid mix'd with it, can ſcarce be fix'd upon Mankind; but where there is a Mixture of true and falſe, the Strength of the one ſupports the Weakneſs of the other. As for Sorcery, the Inſtances and Examples of it are undeniable; not ſo much thoſe few ſcatter'd Inſtances that happen now and then among us, but ſuch as are more conſtant, and in a manner National, in ſome Countries, and amongſt barbarous People. Beſides, the Oracles, and the Magick that was ſo frequent amongſt the Ancients, ſhow us that there have been always ſome Powers more than Humane tampering with the Affairs of Mankind. But this Topick from Effects, extraordinary and ſupernatural, being in a great meaſure Hiſtorical, and reſpecting evil Spirits as well as the Author of Nature, is not ſo proper for this Place.

There is a third Set or Head of Arguments, that to ſome Tempers are more cogent and convictive than any of theſe, namely, Arguments *Abſtract* and *Metaphyſical*; And theſe do not only lead us to an Author of Nature in general, but ſhow us more of his Properties and Perfections; repreſent him to us as a ſupreme Deity, infinitely perfect, the Fountain of all Being, and the ſteady Center of all Things. But Reaſons of this Order being of a finer Thread, require more Attention, and ſome Preparation of Mind to make us diſcern them well, and be duly ſenſible of them. When a Man hath withdrawn himſelf from the Noiſe of this buſy World, lock'd up his Senſes and his Paſſions, and every thing that would unite him with it; commanded a general Silence in the Soul, and ſuffers not a Thought to ſtir, but what looks inwards; let him then reflect ſeriouſly, and ask himſelf, *What am I*, and *How came I into Being?* If I was Author and Original to my ſelf, ſurely I ought to feel that mighty Power, and enjoy the Pleaſure of it; but, alas, I am conſcious of no ſuch Force or Virtue, nor of any thing in my Nature, that ſhould give me neceſſary Exiſtence; it hath no Connexion with any part of me, nor any Faculty in me, that I can diſcern. And now that I do exiſt, from what Cauſes ſoever, *Can I ſecure my ſelf in Being?* now that I am in Poſſeſſion, am I ſure to keep it? am I certain that three Minutes hence I ſhall ſtill exiſt? I may or I may not, for ought I ſee; either ſeems poſſible in itſelf, and either is contingent as to me; I find nothing in my Nature that can warrant my Subſiſtence for one Day, for one Hour, for one Moment longer. I am nothing but Thoughts, fleeting Thoughts, that chaſe and extinguiſh one another; and my Being, for ought I know, is ſucceſſive, and as dying as they are, and renew'd to me every Moment. This I am ſure of, that ſo far as I know my ſelf, and am conſcious what I am, there is no Principle of Immutability, or of neceſſary and indefectible Exiſtence in my Nature; and therefore I ought in Reaſon to believe, that I ſtand or fall at the Mercy of other Cauſes, and not by my own Will, or my own Sufficiency.

Beſides, I am very ſenſible, and in this I cannot be miſtaken, that my Nature is in ſeveral reſpects weak and imperfect, both as to Will and Underſtanding. I *Will* many Things in vain, and without effect, and I Wiſh often what I have no Ability to execute or obtain. And as to my Underſtanding, how defective is it? how little or nothing do I know in Compariſon of what I am ignorant of? Almoſt all the intellectual World is ſhut up to me, and the far greateſt Part of the corporeal; and in thoſe Things that fall under my Cognizance, how often am I miſtaken? I am confin'd to a narrow Sphere, and yet within that Sphere I often err; my Conceptions of Things are obſcure and confus'd, my Reaſon ſhort-ſighted; I am forc'd often to correct my ſelf, to acknowledge that I have judg'd falſe, and conſented to an Error. In ſum, all my Powers I find are limited, and I can eaſily conceive the ſame kind of Perfections in higher Degrees than I poſſeſs them, and conſequently there are Beings, or may be, greater and more excellent than my ſelf, and more able to ſubſiſt by their own Power, (Τὸ τέλειον πρότερον τῇ φυσει τοῦς ἀτελοῦς. Ariſt.) Why ſhould I not therefore believe that my Original is from thoſe Beings rather than from my ſelf? For every Nature, the more great and perfect it is, the nearer it approacheth to Neceſſity of Exiſtence, and to a Power of producing other Things. Yet, the Truth is, it muſt be acknowledg'd, that ſo long as the Perfections of thoſe other Beings are limited and finite, tho' they be far ſuperior to us, there is no Neceſſity ariſeth from their Nature that they ſhould exiſt; and the ſame Arguments that we have us'd againſt our ſelves, they may, in Proportion, uſe againſt themſelves; and therefore we muſt ſtill advance higher to find a ſelf-originated Being, whoſe Exiſtence muſt flow immediately from his Eſſence, or have a neceſſary Connexion with it.

And indeed all theſe different Degrees of higher and higher Perfections lead us directly to an higheſt, or ſupreme Degree, which is infinite and unlimited Perfection. As ſubordinate Cauſes lead to the firſt, ſo Natures more perfect one than another lead us to a Nature infinitely perfect, which is the Fountain of them all. Thither we muſt go, if we will follow the Courſe of Reaſon, which cannot ſtop at one more than another, till it arrive there; and being arriv'd there at that ſovereign and original Perfection, it finds a firm and immoveable Ground to ſtand upon; the ſteady Center of all Being, wherein the Mind reſts and is ſatisfied. All the Scruples or Objections that we mov'd againſt our ſelves, or other Creatures, take no Place here: This Being is conſcious of an Allſufficiency in it ſelf, and of Immutability as to any Thing elſe; including in it all the Cauſes of Exiſtence, or, to ſpeak more properly, all Neceſſity of Exiſtence. Beſides, that *we exiſt our ſelves*, notwithſtanding the Imperfection and Inſufficiency of our Nature, is a juſt, collateral Proof of the Exiſtence of this ſupreme Being; for ſuch an Effect as this cannot be without its Cauſe, and it can have no other competent Cauſe but what we mention. And as this Being is its own Origin, ſo it muſt needs be capable of producing all Creatures; for whatſoever is poſſible, muſt be poſſible to it; and that Creatures or finite Beings are poſſible, we both ſee by Experience, and may alſo diſcern by Reaſon; for thoſe ſeveral Degrees of Perfection, or Limitations of it, which we mention'd before, are all conſiſtent Notions, and conſequently make conſiſtent Natures, and ſuch as may exiſt; but contingently indeed, and in Dependance upon the firſt Cauſe.

Thus we are come at length to a fair Reſolution of that great Queſtion, *Whence we are*, and *how* we continue in Being? And this hath led us by an eaſy Aſcent to the ſupreme Author of Nature, and the firſt Cauſe of all things; and preſents us alſo with ſuch a Scheme and

Draught of the Univerſe, as is clear and rational; every thing in its Order, and in its Place, according to the Dignity of its Nature, and the Strength of its Principles. When the Mind hath rais'd it ſelf into this View of a Being infinitely Perfect, 'tis in a Region of Light, hath a free Proſpect every Way, and ſees all Things from Top to Bottom, as pervious and tranſparent. Whereas without God and a firſt Cauſe there is nothing but Darkneſs and Confuſion in the Mind, and in Nature; broken Views of Things, ſhort interrupted Glimpſes of Light, nothing certain or demonſtrative, no Baſis of Truth, no Extent of Thought, no Science, no Contemplation.

You will ſay, it may be, 'tis true, ſomething muſt be *eternal*, and of *neceſſary Exiſtence*, but why may not *Matter* be this eternal neceſſary Being? Then our Souls and all other Intellectual Things muſt be Parts and Parcels of Matter; and what Pretenſions can Matter have to thoſe Properties and Perfections that we find in our Souls, how limited ſoever? much leſs to *neceſſary Exiſtence*, and thoſe Perfections that are the Foundation of it? What exiſts eternally, and from it ſelf, its Exiſtence muſt flow immediately from its Eſſence, as its Cauſe, Reaſon or Ground; for as Exiſtence hath always ſomething antecedent to it in Order of Nature, ſo that which is antecedent to it muſt infer it by a neceſſary Connexion, and ſo may be call'd the Cauſe, Ground, or Reaſon of it. And nothing can be ſuch a Ground, but what is a Perfection; nor every Perfection neither, it muſt be ſovereign and infinite Perfection; for from what elſe can neceſſary Exiſtence flow, or be infer'd? Beſides, if that Being was not infinitely perfect, there might be another Being more powerful than it, and conſequently able to oppoſe and hinder its Exiſtence; and what may be hinder'd is contingent and arbitrary. Now *Matter* is ſo far from being a Nature infinitely perfect, that it hath no Perfection at all, but that of bare *Subſtance*; neither Life, Senſe Will or Underſtanding; nor ſo much as Motion from it ſelf; as we have ſhow'd before. And therefore this brute inactive Maſs, which is but, as it were, the Drudge of Nature, can have no Right or Title to that ſovereign Prerogative of Self-exiſtence.

We noted before, as a Thing agreed upon, *that ſomething or other muſt needs be Eternal.* For if ever there was a Time or State when there was no Being, there never could be any. Seeing *Nothing* could not produce *Something.* Therefore 'tis undeniably true on all Hands, that there was ſome Being from Eternity. Now, according to our Underſtandings, *Truth* is *Eternal*: Therefore, ſay we, ſome intellect or intelligent Being. So alſo the Reaſons of *Goodneſs* and *Juſtice* appear to us eternal; and therefore ſome good and juſt Being is eternal. Thus much is plain, that theſe Perfections which bear the Signatures of Eternity upon them, are Things that have no Relation to *Matter*, but relate immediately to an intellectual Being: Therefore ſome ſuch Being, to whom they originally belong, muſt be that *Eternal.* Beſides, We cannot poſſibly but judge ſuch a Being more perfect than Matter. Now every Nature, the more perfect it is, the more remote it is from *Nothing*; and the more remote it is from Nothing, the more it approaches to Neceſſity of Exiſtence, and conſequently to eternal Exiſtence.

Thus we have made a ſhort Survey, ſo far as the Bounds of a Chapter would permit, of thoſe Evidences and Aſſurances which we have from abſtract Reaſon and the external World, that there is an Author of Nature; and that a Being infinitely perfect, which we call *God.* We may add to theſe, in the laſt Place, that univerſal Conſent of Mankind, or natural Inſtinct of Religion, which we ſee, more or leſs, throughout all Nations, barbarous or civil. For tho' this Argument, 'tis true, be more diſputable than the reſt, yet having ſet down juſt Grounds already from whence this natural Judgment or Perſuaſion might ſpring, we have more Reaſon to impute it to ſome of thoſe, and their inſenſible Influence upon the Mind, than to the Artifices of Men, or to make it a Weakneſs, Prejudice, or Error of our Nature. That there is ſuch a Propenſion in humane Nature, ſeems to be very plain; at leaſt ſo far as to move us to implore, and have recourſe to inviſible Powers in our Extremities. Prayer is natural in certain Caſes, and we do at the mere Motion of our natural Spirit, and indeliberately, invoke God and Heaven, either in caſe of extreme Danger, to help and aſſiſt us; or in caſe of Injuſtice and Oppreſſion, to relieve or avenge us; or in caſe of falſe Accuſation, to vindicate our Innocency; and generally in all Caſes deſperate and remedileſs as to humane Power, we ſeem to appeal, and addreſs our ſelves to ſomething higher. And this we do by a ſudden Impulſe of Nature, without Reflexion or Deliberation. Beſides, as Witneſſes of our Faith and Veracity, we uſe to invoke the Gods, or ſuperior Powers, by Way of Imprecation upon our ſelves, if we be falſe and perjur'd; and this hath been us'd in moſt Nations and Ages, if not in all. Theſe things alſo argue, that there is a natural Conſcience in Man, and a Diſtinction of moral *Good* and *Evil*; and that we look upon thoſe inviſible Powers as the Guardians of Virtue and Honeſty. There are alſo few or no People upon the Earth but have ſomething of external Religion, true or falſe; and either of them is an Argument of this natural Anticipation, or that they have an Opinion that there is ſomething above them, and above viſible Nature; tho' what that *ſomething* was, they ſeldom were able to make a good Judgment. But to purſue this Argument particularly, would require an hiſtorical Deduction of Times and Places, which is not ſuitable to our preſent Deſign.

To conclude this Chapter and this Subject; if we ſet Religion apart, and conſider the Deiſt and Atheiſt only as two Sects in Philoſophy, or their Doctrine as two different *Hypotheſes* propos'd for the Explication of Nature, and in Competition with one another, whether ſhould give the more rational Account of the Univerſe, of its Origin and *Phænomena*; I ſay, if we conſider them only thus, and make an impartial Eſtimate whether Syſtem is more reaſonable, more clear, and more ſatisfactory; to me there ſeems to be no more Compariſon than betwixt Light and Darkneſs. The *Hypotheſis* of the Deiſt reacheth from Top to Bottom, both thorough the intellectual and material World, with a clear and diſtinct Light every where; is genuine, comprehenſive, and ſatisfactory; hath nothing forc'd, nothing confus'd, nothing precarious; whereas the *Hypotheſis* of the Atheiſt is ſtrain'd and broken, dark and uneaſy to the Mind, commonly precarious; often incongruous and irrational, and ſometimes plainly ridiculous. And this Judgment I ſhould make of them abſtractly from the Intereſt of Religion, conſidering them only as Matter of Reaſon and Philoſophy. *And* I dare affirm with Aſſurance, if the Faculties of our Souls be true, that no Man can have a Syſtem of Thoughts reaching thorough Nature, coherent and conſiſtent in every Part, without a Deity for the Baſis of it.

CHAP. XI.

Concerning NATURAL PROVIDENCE.

Several Incroachments upon natural Providence, or Miſrepreſentations of it, and falſe Methods of Contemplation. A true Method propos'd, and a true Repreſentation of the Univerſe. The Mundane Idea, *and the univerſal Syſtem of Providence. Several ſubordinate Syſtems. That of our Earth and ſublunary World. The Courſe and Periods of it. How much of this is already treated of, and what remains. The Concluſion.*

WE have ſet Bounds to Nature in the foregoing Chapter, and plac'd her Author and Governor upon his Throne, to give Laws to her Motions, and to direct and limit her Power in ſuch Ways and Methods as are moſt for his Honour. Let us now conſider Nature under the Conduct of Providence, or conſider *Natural Providence*, and the Extent of it; and as we were cautious before not to give too much Power or Greatneſs to Nature, conſider'd apart from Providence; ſo we muſt be careful now, under this ſecond Conſideration, not to contract her Bounds too much; leſt we ſhould, by too mean and narrow Thoughts of the Creation, eclipſe the Glory of its Author, whom we have ſo lately own'd as a Being infinitely Perfect.

And to uſe no further Introduction, in the *firſt Place*, we muſt not by any Means admit or imagine, that all Nature, and this great Univerſe, was made only for the ſake of Man, the meaneſt of all intelligent Creatures that we know of; nor that this little Planet, where we ſojourn for a few Days, is the only habitable Part of the Univerſe: Theſe are Thoughts ſo groundleſs and unreaſonable in themſelves, and alſo ſo derogatory to the infinite Power, Wiſdom and Goodneſs of the firſt Cauſe, that as they are abſurd in Reaſon, ſo they deſerve far better to be mark'd and cenſur'd for Hereſies in Religion, than many Opinions that have been cenſur'd for ſuch in former Ages. How is it poſſible that it ſhould enter into the Thoughts of vain Man to believe himſelf the principal Part of God's Creation, or that all the reſt was ordain'd for him, for his Service or Pleaſure? Man, whoſe Follies we laugh at every Day, or elſe complain of them; whoſe Pleaſures are Vanity, and his Paſſions ſtronger than his Reaſon; who ſees himſelf every Way weak and impotent, hath no Power over external Nature, little over himſelf; cannot execute ſo much as his own good Reſolutions; mutable, irregular, prone to Evil. Surely, if we made the leaſt Reflection upon our ſelves with Impartiality, we ſhould be aſham'd of ſuch an arrogant Thought. How few of theſe Sons of Men, for whom, they ſay, all Things were made, are the Sons of Wiſdom? How few find the Paths of Life? They ſpend a few Days in

Folly and Sin, and then go down to the Regions of Death and Miſery. And is it poſſible to believe that all Nature, and all Providence, are only or principally for their ſake? Is it not a more reaſonable Character or Concluſion which the Prophet hath made, *Surely every Man is Vanity?* Man that comes into the World at the Pleaſure of another, and goes out by an hundred Accidents; his Birth and Education generally determine his Fate here, and neither of thoſe are in his own Power; his Wit alſo is as uncertain as his Fortune; he hath not the moulding of his own Brain, however a Knock on the Head makes him a Fool, ſtupid as the Beaſts of the Field; and a little Exceſs of Paſſion or Melancholy makes him worſe, Mad and Frantick. In his beſt Senſes he is ſhallow, and of little Underſtanding; and in nothing more blind and ignorant than in Things ſacred and divine; he falls down before a Stock or a Stone, and ſays, Thou art my God; he can believe Nonſenſe and Contradictions, and make it his Religion to do ſo. And is this the great Creature which God hath made *by the Might of his Power, and for the Honour of his Majeſty?* Upon whom all Things muſt wait, to whom all Things muſt be ſubſervient? Methinks we have noted Weakneſſes and Follies enough in the Nature of Man; this need not be added as the Top and Accompliſhment, *That with all theſe he is ſo Vain as to think that all the reſt of the World was made for his ſake.*

And as due Humility and the Conſideration of our own Meanneſs ought to ſecure us from any ſuch vain Opinion of our ſelves, ſo the Perfection of other Beings ought to give us more Reſpect and Honour for them. With what Face can we pretend that Creatures far ſuperior to us, and more excellent both in Nature and Condition, ſhould be made for our Sake and Service? How prepoſterous would it be to aſcribe ſuch a thing to our Maker, and how intolerable a Vanity in us to affect it? We that are next to the Brutes that periſh, by a ſacrilegious Attempt would make our ſelves more conſiderable than the higheſt Dignities. It is thought to have been the Crime of *Lucifer*, who was thrown down from Heaven to Hell, that he affected an Equality with the Almighty; and to affect to be next to the Almighty is a Crime next to that. We have no Reaſon to believe but that there are, at leaſt, as many Orders of Beings above us, as there are Ranks of Creatures below us; there is a greater Diſtance ſure betwixt us and God Almighty, than there is betwixt us and the meaneſt Worm; and yet we ſhould take it very ill, if the Worms of the Earth ſhould pretend that we were made for them. But to paſs from the inviſible World to the viſible and corporeal ---

Was that made only for our ſake? King *David* was more wiſe, and more juſt both to God and Man, in his 8th *Pſalm*; where he ſays, *He wonders, when he conſiders the Heavens, that the Maker of them could think on Man.* He truly ſuppoſes the celeſtial Bodies, and the Inhabitants of them, much more conſiderable than we are, and reckons up only terreſtrial Things as put in ſubjection to Man. Can we then be ſo fond as to imagine all the corporeal Univerſe made for our Uſe? 'Tis not the millioneth Part of it that is known to us, much leſs uſeful; we can neither reach with our Eye, nor our Imagination, thoſe Armies of Stars that lie far and deep in the boundleſs Heavens. If we take a good Glaſs, we diſcover innumerably more Stars in the Firmament than we can with our ſingle Eye; and yet if you take a ſecond Glaſs, better than the firſt, that carries the Sight to a greater Diſtance, you ſee more ſtill lying beyond the other; and a third Glaſs that pierceth further, ſtill makes new Diſcoveries of Stars; and ſo forwards, indefinitely and inexhauſtedly for any Thing we know, according to the Immenſity of the divine Nature and Power. Who can reckon up the Stars of the Galaxy, or direct us in the Uſe of them? And can we believe that thoſe and all the reſt were made for us? Of thoſe few Stars that we enjoy, or that are viſible to the Eye, there is not a tenth Part that is really uſeful to Man; and no doubt if the principal End of them had been our Pleaſure or Conveniency, they would have been put in ſome better Order in reſpect of the Earth. They lie careleſly ſcatter'd, as if they had been ſown in the Heaven, like Seed, by handfuls; and not by a ſkilful Hand neither. What a beautiful Hemiſphere they would have made, if they had been plac'd in Rank and Order; if they had been all diſpos'd into regular Figures, and the little ones ſet with due Regard to the greater, then all finiſht and made up into one fair Piece or great Compoſition, according to the Rules of Art and Symmetry; what a ſurprizing Beauty this would have been to the Inhabitants of the Earth? What a lovely Roof to our little World? This indeed might have given one ſome Temptation to have thought that they had been all made for us; but leſt any ſuch vain Imagination ſhould now enter into our Thoughts, Providence (beſides more important Reaſons) ſeems on Purpoſe to have left them under that Negligence or Diſorder which they appear in to us.

The ſecond Part of this Opinion ſuppoſeth this Planet, where we live, to be the only habitable Part of the Univerſe; and this is a natural Conſequence of the former: If all things were made to ſerve us, why ſhould any more be made than what is uſeful to us? But 'tis only our Ignorance of the Syſtem of the World, and of the Grandeur of the Works of God, that betrays us to ſuch narrow Thoughts, (*See the Lat. Treat. lib.* 1. *c.* 10. *p.* 108. 109, *&c.*) If we do but conſider what this Earth is, both for Littleneſs and Deformity, and what its Inhabitants are, we ſhall not be apt to think that this miſerable Atom hath ingroſs'd and exhauſted all the divine Favours, and all the Riches of his Goodneſs, and of his Providence. But we will not enlarge upon this Part of the Opinion,

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left it ſhould carry us too far from the Subject, and it will fall of its own Accord, with the former. Upon the whole we may conclude, that it was only the ſublunary World that was made for the ſake of Man, and not the great Creation, either material or intellectual; and we cannot admit or affirm any more without manifeſt Injury, Depreſſion, and Miſrepreſentation of Providence, as we may be eaſily convinc'd from theſe four Heads; *The* Meanneſs of Man and of this Earth; *The* Excellency of other Beings; *The* Immenſity of the Univerſe, and the infinite Perfection of the firſt Cauſe. Which I leave to your further Meditation, and paſs on to the ſecond Rule concerning natural Providence.

In the ſecond Place then, If we would have a fair View and right Apprehenſions of natural Providence, we muſt not cut the Chains of it too ſhort, by having recourſe without Neceſſity either to the firſt Cauſe, in explaining the Origins of Things; or to Miracles, in explaining particular Effects. This, I ſay, breaks the Chains of natural Providence, when it is done without Neceſſity; that is, when Things are otherwiſe intelligible from ſecond Cauſes. Neither is any Thing gain'd by it to God Almighty; for 'tis but as the Proverb ſays, *To rob* Peter *to pay* Paul; to take ſo much from his ordinary Providence, and place it to his extraordinary. When a new Religion is brought into the World, 'tis very reaſonable and decorous that it ſhould be uſher'd in with Miracles, as both the *Jewiſh* and *Chriſtian* were; but afterwards Things return into their Channel, and do not change or overflow again but upon extraordinary Occaſions or Revolutions. The Power *Extraordinary* of God is to be accounted very ſacred, not to be touch'd or expos'd for our Pleaſure or Conveniency; but I am afraid we often make uſe of it only to conceal our own Ignorance, or to ſave us the Trouble of inquiring into natural Cauſes. Men are generally unwilling to appear ignorant, eſpecially thoſe that make Profeſſion of Knowledge; and when they have not Skill enough to explain ſome particular Effect in a Way of Reaſon, they throw it upon the firſt Cauſe, as able to bear all; and ſo placing it to that Account, they excuſe themſelves, and ſave their Credit; for all Men are equally wiſe, if you take away ſecond Cauſes; as we are all of the ſame Colour, if you take away the Light.

But to ſtate this Matter, and ſee the Ground of this Rule more diſtinctly, we muſt obſerve and conſider, That *the Courſe of Nature is truly the Will of God*; (*See Book* I. *c.* 8. *at the End.*) and, as I may ſo ſay, his firſt Will; from which we are not to recede, but upon clear Evidence and Neceſſity. And as in Matter of Religion, we are to follow the known reveal'd Will of God, and not to truſt to every Impulſe or Motion of Enthuſiaſm, as coming from the Divine Spirit, unleſs there be evident Marks that it is ſupernatural, and cannot come from our own; ſo neither are we, without

Neceſſity, to quit the known and ordinary Will and Power of God, eſtabliſh'd in the Courſe of Nature, and fly to ſupernatural Cauſes, or his extraordinary Will; for this is a kind of Enthuſiaſm or Fanaticiſm, as well as the other: And no doubt that great Prodigality and Waſte of Miracles which ſome make, is no way to the Honour of God or Religion. 'Tis true, the other Extreme is worſe than this, for to deny all Miracles, is in effect to deny all Reveal'd Religion; therefore due Meaſures are to be taken betwixt theſe two, ſo as neither to make the Divine Power too mean and cheap, nor the Power of Nature illimited and all-ſufficient.

In the third Place, to make the Scenes of natural Providence conſiderable, and the Knowledge of them ſatisfactory to the Mind, we muſt take a true Philoſophy, or the true Principles that govern Nature, which are Geometrical and Mechanical. By theſe you diſcover the Footſteps of the Divine Art and Wiſdom, and trace the Progreſs of Nature Step by Step, as diſtinctly as in artificial things, where we ſee how the Motions depend upon one another, in what Order and by what Neceſſity. God made all Things in *Number*, *Weight* and *Meaſure*, which are Geometrical and Mechanical Principles: He is not ſaid to have made Things by *Forms* and *Qualities*, or any Combination of Qualities, but by theſe three Principles, which may be conceiv'd to expreſs the Subject of three Mathematical

Sciences, Number, of *Arithmetick*; Weight, of *Staticks*; and *Meaſure* and Proportion, of *Geometry*: If then all things were made according to theſe Principles, to underſtand the manner of their Conſtruction and Compoſition, we muſt proceed in the Search of them by the ſame Principles, and reſolve them into theſe again. Beſides, the Nature of the Subject does direct us ſufficiently; for when we contemplate or treat of Bodies, and the material World, we muſt proceed by the Modes of Bodies, and their real Properties, ſuch as can be repreſented either to Senſe or Imagination, for theſe Faculties are made for corporeal Things; but Logical Notions, when applied to particular Bodies, are meer Shadows of them, without Light or Subſtance. No Man can raiſe a Theory upon ſuch Grounds, nor calculate any Revolutions of Nature, nor render any Service, or invent any thing uſeful in humane Life. And accordingly we ſee, that for theſe many Ages, that this dry Philoſophy hath govern'd Chriſtendom, it hath brought forth no Fruit, produc'd nothing good to God or Man, to Religion or Humane Society.

To theſe true Principles of Philoſophy, we muſt join alſo the true Syſtem of the World. That gives Scope to our Thoughts, and rational Grounds to work upon; but the vulgar Syſtem, or that which *Ariſtotle* and others have propos'd, affords no Matter of Contemplation. All above the Moon, according to him, is firm as Adamant, and as immutable; no

Change or Variation in the Univerſe, but in thoſe little Removes that happen here below, one Quality or Form ſhifting into another: There would therefore be no great Exerciſe of Reaſon or Meditation in ſuch a World; no long Series's of Providence: The Regions above being made of a kind of immutable Matter, they would always remain in the ſame Form, Structure, and Qualities: So as we might lock up that part of the Univerſe as to any further Inquiries, and we ſhould find it ten thouſand Years hence in the ſame Form and State wherein we left it. Then in this Sublunary World there would be but very ſmall Doings neither; Things would lie in a narrow Compaſs, no great Revolution of Nature, no new Form of the Earth, but a few Anniverſary *Corruptions* and *Generations*, and that would be the ſhort and the long of Nature, and of Providence, according to *Ariſtotle*. But if we conſider the Earth, as one of thoſe many Planets that move about the Sun, and the Sun as one of thoſe innumerable fix'd Stars that adorn the Univerſe, and are the Centers of its greateſt Motions; and all this ſubject to Fate and Change, to Corruptions and Renovations: This opens a large Field for our Thoughts, and gives a large Subject for the Exerciſe and Expanſion of the Divine Wiſdom and Power, and for the Glory of his Providence.

In the laſt Place; Having thus prepar'd your Mind, and the Subject, for the Contemplation of *Natural Providence*, do not content your ſelf to conſider only the preſent Face of Nature, but look back into the firſt *Sources* of Things, into their more ſimple and original States; and obſerve the Progreſs of Nature from one Form to another, through various Modes and Compoſitions. For there is no ſingle Effect, nor any ſingle State of Nature, how perfect ſoever, that can be ſuch an Argument and Demonſtration of Providence, as a Period of Nature, or a Revolution of ſeveral States conſequential to one another; and in ſuch an Order and Dependance, that as they flow and ſucceed, they ſhall ſtill be adjuſted to the Periods of the moral World; ſo as to be ready always to be Miniſters of the Divine Juſtice or Beneficence to Mankind. This ſhows the manifold Riches of the Wiſdom and Power of God in Nature. And this may give us juſt Occaſion to reflect again upon *Ariſtotle*'s Syſtem and Method, which deſtroys Natural Providence in this reſpect alſo; for he takes the World as it is now, both for Matter and Form, and ſuppoſeth it to have been in this Poſture from all Eternity, and that it will continue to Eternity in the ſame; ſo as all the great Turns of Nature, and the principal Scenes of Providence in the Natural World are quite ſtruck out; and we have but this one Scene for all, and a pitiful one too, if compar'd with the infinite Wiſdom of God, and the Depths of Providence. We muſt take Things in their full Extent, and from their

Origins, to comprehend them well, and to diſcover the Myſteries of Providence, both in the Cauſes and in the Conduct of them. That Method which *David* followed in the Contemplation of the Little World, or in the Body of Man, we ſhould alſo follow in the Great; take it in its firſt Maſs, in its tender Principles and Rudiments, and obſerve the Progreſs of it to a compleat Form; in theſe firſt Stroaks of Nature are the Secrets of her Art; the Eye muſt be plac'd in this Point to have a right Proſpect, and ſee her Works in a true Light. *David* admires the Wiſdom of God in the Origin and Formation of his Body; *My Body*, ſays he, *was not hid from thee, when I was made in ſecret, curiouſly wrought in the lower Parts of the Earth; thine Eyes did ſee my Subſtance being yet unperfect, and in thy Book all my Members were written; which in Continuance were faſhioned, when as yet there was none of them*, or being at firſt in no Form. *How precious are thy Thoughts to me, O God!* &c. *Pſal.* 139. 15, 16, 17. This was the Subject of *David's* Meditations, how his Body was wrought from a ſhapeleſs Maſs into that marvellous Compoſition which it had when fully fram'd; and this, he ſays, was under the Eye of God all along, and the Model of it, as it were, was deſign'd and delineated in the Book of Providence, according to which it was by degrees faſhion'd and wrought to Perfection. *Thine Eyes did ſee my Subſtance yet being imperfect, in thy Book all my Members were drawn*, &c.

Job alſo hath aptly expreſs'd thoſe firſt Rudiments of the Body, or that little Chaos out of which it riſeth; *Haſt thou not poured me out as Milk, and cruddled me like Cheeſe? Thou haſt cloathed me with Skin and Fleſh, and fenced me with Bones and Sinews,* Job. 10. 10, 11. Where he notes the firſt Matter and the laſt Form of his Body, its compleat and moſt incompleat State. According to theſe Examples we muſt likewiſe conſider the greater Bodies of Nature, the Earth and the Sublunary World; we muſt go to the Origin of them, the Seminal Maſs, the Chaos out of which they riſe; look upon the World firſt as an Embryo World, without Form or Shape, and then conſider how its Members were faſhion'd, how by degrees it was brought into that Diverſity of Parts and Regions which it conſiſts of, with all their Furniture, and with all their Ornaments. The *Idea* of all which was before-hand, according to *David*'s Expreſſion, written in the Divine Mind; and we partake of that Wiſdom, according to our Capacity, in ſeeing and admiring the Methods of it.

Theſe ſeem to be neceſſary Preparatives or Directions to thoſe that would contemplate, with Profit, Natural Providence, and the great Works of God in the viſible Creation. We conſider'd Nature in the precedent Chapter abſtractly, and in her ſelf; and now we conſider her under the Conduct of Providence, which we therefore call Natural Providence:

And as we have endeavour'd to remove thoſe falſe Notions and Suppoſitions that lay as Clouds upon her Face, ſo we muſt now endeavour to repreſent her in a better Light, and in a fuller Beauty. By *Natural Providence* therefore we underſtand, *the Form or Courſe of Univerſal Nature, as actuated by the Divine Power; with all the Changes, Periods, and Viciſſitudes that attend it, according to the Method and Eſtabliſhment made at firſt by the Author of it.* I ſaid of *Univerſal Nature*, through all the Orders of Beings in the intellectual World, and all the Regions and Syſtems of Matter in the corporeal. For, having prov'd in the foregoing Chapter, that there is an Author of Nature, a Being infinitely perfect, by whoſe Power and Influence alone all finite Natures exiſt and act, we have an aſſured Ground to conclude, that nothing can come to paſs, throughout the whole Creation, without the Preſcience and Permiſſion of its Author; and as it is neceſſary to ſuppoſe that there is an *Idea* in the Divine Underſtanding of all the Maſs of Beings produc'd or created, according to the ſeveral Ranks and Orders wherein they ſtand; ſo there is alſo an *Idea* there, according to which this great Frame moves, and all the Parts of it, in Beauty and Harmony.

And theſe two Things, The *Eſſences* of all Beings, and the Series of their *Motions*, compoſe the MUNDANE IDEA, as I may ſo call it; or that great all-comprehenſive Thought in the divine Underſtanding, which contains the

Syſtem of univerſal Providence, and the State of all Things, paſt, preſent, or to come. This glorious *Idea* is the expreſs Image of the whole Creation, of all the Works of God, and the Diſpoſition of them; here lie the Myſteries of Providence, as in their Original; the ſucceſſive Forms of all Nature; and herein, as in a Glaſs, may be view'd all the Scenes of Time or Eternity. This is an Abyſs of ſacred Wiſdom, the inexhauſted Treaſure of all Science, the Root of Truth, and Fountain of intellectual Light; and in the clear and full Contemplation of this is perfect Happineſs, and a truly beatifick Viſion.

But what concerns the intellectual World in this *Idea*, and the Orders or Natures that compoſe it, is not our preſent Buſineſs to purſue; we are to ſpeak of the corporeal Univerſe, whereof we will make now a ſhort and general Survey, as it lies under Providence. The corporeal Univerſe, how immenſe ſoever it be, and divided into innumerable Regions, may be conſider'd all as one Syſtem, made up of ſeveral ſubordinate Syſtems. And there is alſo one immenſe Deſign of Providence co-extended with it, that contains all the Fate, and all the Revolutions of this great Maſs. This, I ſay, is made up of ſeveral ſubordinate Syſtems, involving one another, and comprehending one another, in greater and greater Orbs and Compoſitions; and the Aggregate of all theſe is that which we call the *Univerſe*. But what the Form of theſe Compoſitions is, and what the Deſign of Providence that runs thro' them all, and comprehends them all, this is unſearchable, not only to humane Underſtanding, but even to Angels and Archangels.

Wherefore leaving thoſe greater Syſtems and Compoſitions of the Univerſe, as Matter of our Admiration, rather than of our Knowledge; there are two or three kinds of leſſer Syſtems that are viſible to us, and bring us nearer to our Subject, and nearer home. *That* of a fixt Star ſingle; *That* of a fixt Star with its Planets, and *that* of a ſingle Planet, primary or ſecondary. Theſe three Syſtems we ſee and enjoy more or leſs. No doubt there are fixt Stars ſingle, or that have no Planets about them, as our Sun hath; nay, 'tis probable, that at firſt the whole Univerſe conſiſted only of ſuch Globes of liquid Fire, with Spheres about them, of pure Light and Æther: Earths are but the Dirt and Skum of the Creation, and all Things were pure as they came at firſt out of the Hands of God. But becauſe we have nothing particular taught us, either by the Light of Nature or Revelation, concerning the Providence that governs theſe ſingle Stars, of what Uſe they are to intellectual Beings, how animated by them, what Diverſity there is amongſt thoſe æthereal Worlds, what Periods they have, what Changes or Viciſſitudes they are capable to undergo; becauſe ſuch Inquiries would ſeem too remote, and carry us too far from our Subject, we leave theſe heavenly Syſtems to the Enjoyment and Contemplation of higher and more noble Creatures.

The Sun, with all the Planets that move about him, and depend upon him, make a good Sort of Syſtem; not conſiderable indeed, if compar'd with the whole Univerſe, or ſome of the greater Compoſitions in it; but in reſpect of us, the Syſtem of the Sun is of vaſt Extent: We cannot meaſure the Greatneſs of his Kingdom, and his Dominion is without End. The Diſtance from the higheſt Planet to the neareſt fixt Star in the Firmament is unmeaſurable, and all this belongs to the Empire of the Sun; beſides the ſeveral Planets and their Orbs, which caſt themſelves cloſer about his Body, that they may receive a warmer and ſtronger Influence from him; for by him they may be ſaid to *live* and *move*. But thoſe vaſt Spaces that lie beyond theſe opake Bodies, are Regions of perpetual Light; one Planet may eclipſe the Sun to another, and one Hemiſphere of a Planet to the other Hemiſphere makes Night and Darkneſs; but nothing can eclipſe the Sun, or intercept the Courſe of his Light to theſe remote æthereal Regions; they are always luminous, and always pure and ſerene. And if the worſt and planetary Parts of his Dominions be repleniſht with Inhabitants, we cannot ſuppoſe the better to lie as Deſarts unenjoy'd and uninhabited; his Subjects then muſt be numerous, as well as his Dominions large; and in both reſpects this Syſtem of a fixt Star, with its Planets, (of which kind we may imagine innumerable in the Univerſe, beſides this of the Sun, which is near and viſible to us) is of a noble

Character and Order, being the Habitation of Angels and glorified Spirits, as well as of mortal Men.

A planetary Syſtem is the laſt and loweſt; and of theſe, no doubt, there is great Variety, and great Differences; not only of primary and ſecondary, or of the principal Planet, and its Moons or Attendants, but alſo amongſt Planets of the ſame Rank; for they may differ both in their original Conſtitution, and according to the Form and State they are under at preſent; of which ſort of Differences we have noted ſome amongſt our Planets, (*Book.* 1. *chap. laſt, p.* 113, *&c.*) tho' they ſeem to be all of much-what the ſame original Conſtitution. Beſides, according to external Circumſtances, their Diſtance, Manner of Motion, and Poſture to the Sun, which is the Heart of the whole Syſtem, they become different in many Things. And we may obſerve, that thoſe leading Differences, tho' they ſeem little, draw after them innumerable others, and ſo make a diſtinct Face of Nature, and a diſtinct World; which ſtill ſhows the Riches and Fecundity of divine Providence, and gives new Matter of Contemplation to thoſe that take Pleaſure in ſtudying the Works and Ways of God. But leaving all other Planets, or planetary Syſtems to our Meditations only, we muſt particularly conſider our own.

Having therefore made this general Survey of the great Univerſe, run thorough the boundleſs Regions of it, and with much ado found our Way home to that little Planet where our Concerns lie, this Earth or ſublunary World, we muſt reſt here as at the End of our Courſe. And having undertaken to give the general Theory of this Earth, to conclude the preſent Treatiſe, we'll reflect upon the whole Work, and obſerve what Progreſs we have hitherto made in this Theory, and what remains to be treated of hereafter. This Earth, tho' it be a ſmall Part or Particle of the Univerſe, hath a diſtinct Syſtem of Providence belonging to it, or an Order eſtabliſht by the Author of Nature for all its *Phænomena* (natural or moral) throughout the whole Period of its Duration, and every Interval of it; for, as there is nothing ſo great as to be above the divine Care, ſo neither is there any thing ſo little as to be below it. All the Changes of our World are fixt; How, or how often to be deſtroy'd, and how renew'd; What different Faces of Nature, and what of Mankind, in every Part of its Courſe; What new Scenes to adorn the Stage, and what new Parts to be acted; What the Entrance, and what the Conſummation of all. Neither is there any ſort of Knowledge more proper, or of more Importance to us that are the Inhabitants of this Earth, than to underſtand this its natural and ſacred Hiſtory, as I may ſo call it, both as to what is paſt, and what is to come. And as thoſe greater Volumes and Compoſitions of the Univerſe are proportion'd to the Underſtanding of Angels and ſuperior Beings, ſo theſe little Syſtems are *Compendiums* of the divine Wiſdom more fitted to our Capacity and Comprehenſion.

The Providence of the Earth, as of all other Syſtems, conſiſts of two Parts, natural, and ſacred or theological. I call that ſacred or theological that reſpects Religion, and the Diſpenſations of it; the Government of the rational World, or of Mankind, whether under the Light of Nature only, or of a Revelation; the Method and Terms of their Happineſs and Unhappineſs in a future Life: The State, Oeconomy, and Conduct of this, with all the Myſteries contain'd in it, we call theological Providence; in the Head whereof ſtands the Soul of the bleſſed *Meſſiah*, who is Lord of both Worlds, intellectual and material. When we call the other Part of Providence *Natural*, we uſe that Word in a reſtrain'd Senſe, as reſpecting only the material World; and accordingly this Part of Providence orders and ſuperintends the State of the Earth, the great Viciſſitudes and Mutations of it; for we muſt not imagine but that theſe are under the Eye of Providence, as well as humane Affairs, or any Revolutions of States and Empires. Now ſeeing both in the intellectual and corporeal World there are certain Periods, Fulneſſes of Time, and fixt Seaſons, either for ſome great Cataſtrophe, or ſome great Inſtauration; 'tis Providence that makes a due Harmony or Synchroniſm betwixt theſe two, and meaſures out the concurrent Fates of both Worlds, ſo as Nature may be always a faithful Miniſter of the divine Pleaſure, whether for

Rewards or Puniſhments, according as the State of Mankind may require. But theological Providence not being the Subject of this Work, we ſhall only obſerve, as we ſaid before, what Account we have hitherto given of the natural State of the Earth, and what remains to be handled in another Treatiſe, and ſo conclude.

I did not think it neceſſary to carry the Story and Original of the Earth, higher than the Chaos, as *Zoroaſter* and *Orpheus* ſeem to have done; but taking that for our Foundation, which Antiquity ſacred and prophane doth ſuppoſe, and natural Reaſon approve and confirm, we have form'd the Earth from it. But when we ſay the Earth roſe from a fluid Maſs, it is not to be ſo crudely underſtood, as if a Rock of Marble, ſuppoſe, was fluid immediately before it became Marble; no, Things had a gradual Progreſſion from one Form to another, and came at length to thoſe more permanent Forms they are now ſettled in: Stone was once Earth, and Earth was once Mud, and Mud was once fluid. And ſo other Things may have another kind of Progreſſion from Fluidity; but all was once Fluid, at leaſt all the exterior Regions of this Earth. And even thoſe Stones and Rocks of Marble which we ſpeak of, ſeem to confeſs they were once ſoft or liquid, by thoſe Mixtures we find in them of heterogeneous Bodies, and thoſe Spots and Veins diſperſt thorough their Subſtance; for theſe Things could not happen to them after they were hard and impenetrable, in the Form of Stone or Marble. And if we can ſoften Rocks and Stones, and run them down into their firſt Liquors, as theſe Obſervations ſeem to do, we may eaſily believe that other Bodies alſo that compoſe the Earth were once in a fluid Maſs, which is that we call a Chaos.

We therefore watch'd the Motions of that Chaos, and the ſeveral Transformations of it, while it continued Fluid; and we found at length what its firſt Concretion would be, and how it ſettled into the Form of an habitable Earth. But that Form was very different from the preſent Form of the Earth, which is not immediately deducible from a Chaos by any known Laws of Nature, or by any Wit of Man; as every one, that will have Patience to examine it, may eaſily be ſatisfied. That firſt Earth was of a ſmooth, regular Surface, as the Concretions of Liquors are, before they are diſturb'd or broken; under that Surface lay the Great Abyſs, which was ready to ſwallow up the World that hung over it, and about it, whenſoever God ſhould give the Command, and the Vault ſhould break; and this Conſtitution of the primæval Earth gave Occaſion to the firſt Cataſtrophe of this World, when it periſh'd in a Deluge of Water. For that Vault did break, as we have ſhown at large, and by the Diſſolution and Fall of it, the great Deep was thrown out of its Bed, forc'd upwards into the Air, and overflow'd, in that impetuous Commotion, the higheſt Tops of the Fragments of the ruin'd Earth, which now we call its Mountains. And as this was the firſt great and fatal Period of Nature; ſo upon the Iſſue of this, and the Return of the Waters into their Channels, the ſecond Face of Nature appear'd, or the preſent broken Form of the Earth, as it is *Terraqueous*, *Mountainous*, and *Cavernous*. Theſe Things we have explain'd fully in the firſt Book, and have thereby ſettled two great Points, given a rational Account of the *Univerſal Deluge*, and ſhown the Cauſes of the irregular Form of the preſent or *Poſtdiluvian Earth*. This being done, we have apply'd our ſelves, in the ſecond Book, to the Deſcription of the *Primæval Earth*, and the Examination of its Properties; and this hath led us by an eaſy Tract to the Diſcovery of *Paradiſe*, and of the true Notion and Myſtery of it; which is not ſo much a Spot of Ground where a fine Garden ſtood, as a Courſe of Nature, or a peculiar State of the Earth; *Paradiſiacal* in many Parts, but eſpecially in one Region of it; which Place or Region we have alſo endeavour'd to determine, though not ſo much from the Theory, as from the Suffrages of Antiquity, if you will take their Judgment.

Thus much is finiſh'd, and this contains the Natural Theory of the Earth till this preſent time; for ſince the Deluge all Things have continued in the ſame State, or without any remarkable Change. We are next to enter upon new Matter and new Thoughts, and not only ſo, but upon a Series of *Things and Times to come*, which is to make the ſecond

Part of this Theory. Dividing the Duration of the World into two Parts, paſt and future, we have diſpatch'd the firſt and far greater Part, and come better half of our way; And if we make a ſtand here, and look both ways, backwards to the Chaos, and the Beginning of the World, and forwards to the End and Conſummation of all Things, though the firſt be a longer Proſpect, yet there are as many general Changes and Revolutions of Nature in the remaining Part, as have already happen'd; and in the Evening of this long Day the Scenes will change faſter, and be more bright and illuſtrious. From the Creation to this Age the Earth hath undergone but one Cataſtrophe, and Nature hath had two different Faces. The next Cataſtrophe is the CONFLAGRATION, to which a new Face of Nature will accordingly ſucceed, *New Heavens* and a *New Earth*, *Paradiſe* renew'd, and ſo it is call'd the Reſtitution of Things, or *Regeneration* of the World, Ἀποκατάστασις, Παλιγγενεσία. And that Period of Nature and Providence being expir'd, then follows the *Conſummation of all Things*, or the general *Apotheoſis*; *when Death and Hell ſhall be ſwallowed up in Victory*: When the great Circle of Time and Fate is run; or, according to the Language of Scripture, *When the Heavens and the Earth ſhall paſs away, and Time ſhall be no more*.

MAY we, in the mean time, by a true Love of God above all Things, and a Contempt of this vain World which paſſeth away; By a careful Uſe of the Gifts of God and Nature, the Light of Reaſon and Revelation, prepare ourſelves, and the State of Things, for the great Coming of our Saviour. To whom be Praiſe and Honour for Evermore.

FINIS.

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